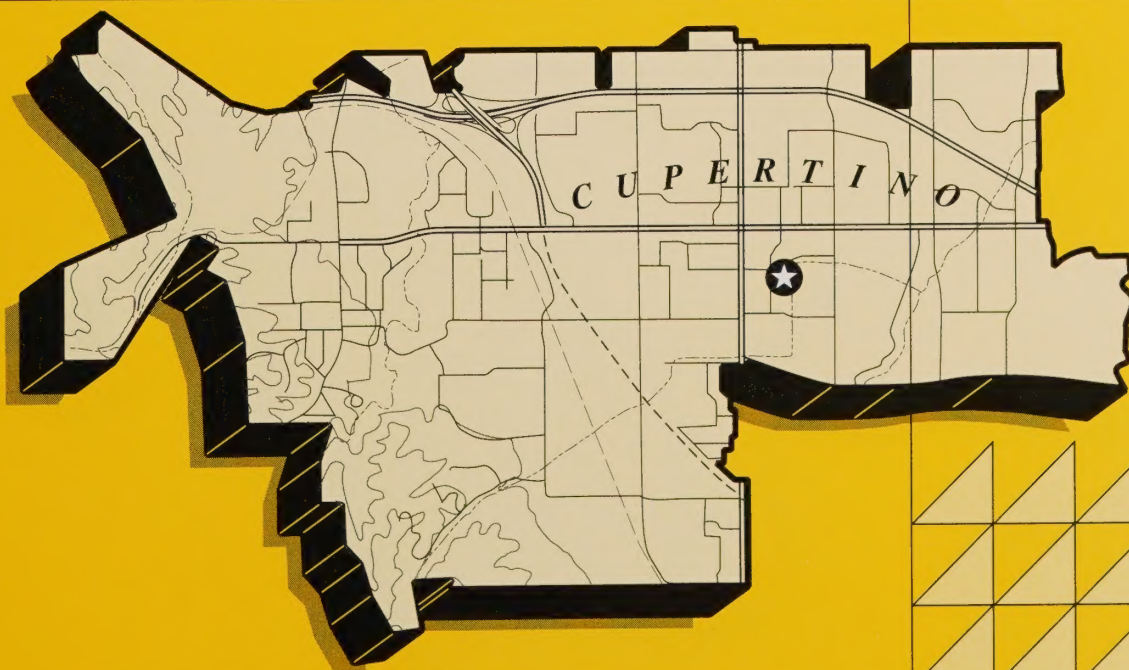




The City of Cupertino

GENERAL PLAN





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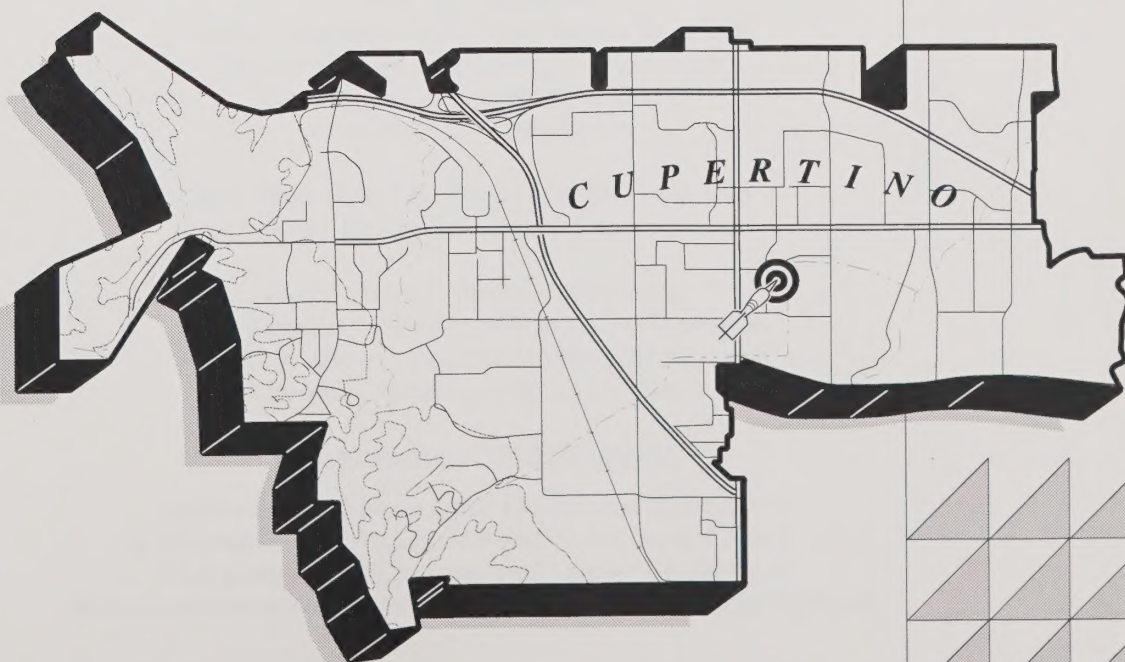
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The City of Cupertino

GENERAL PLAN

1993



City of Cupertino

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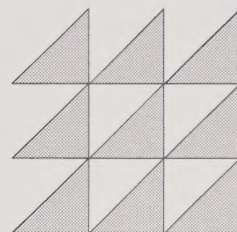
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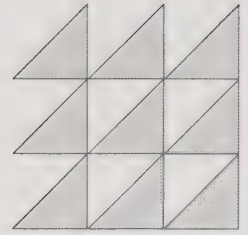
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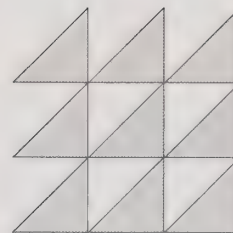
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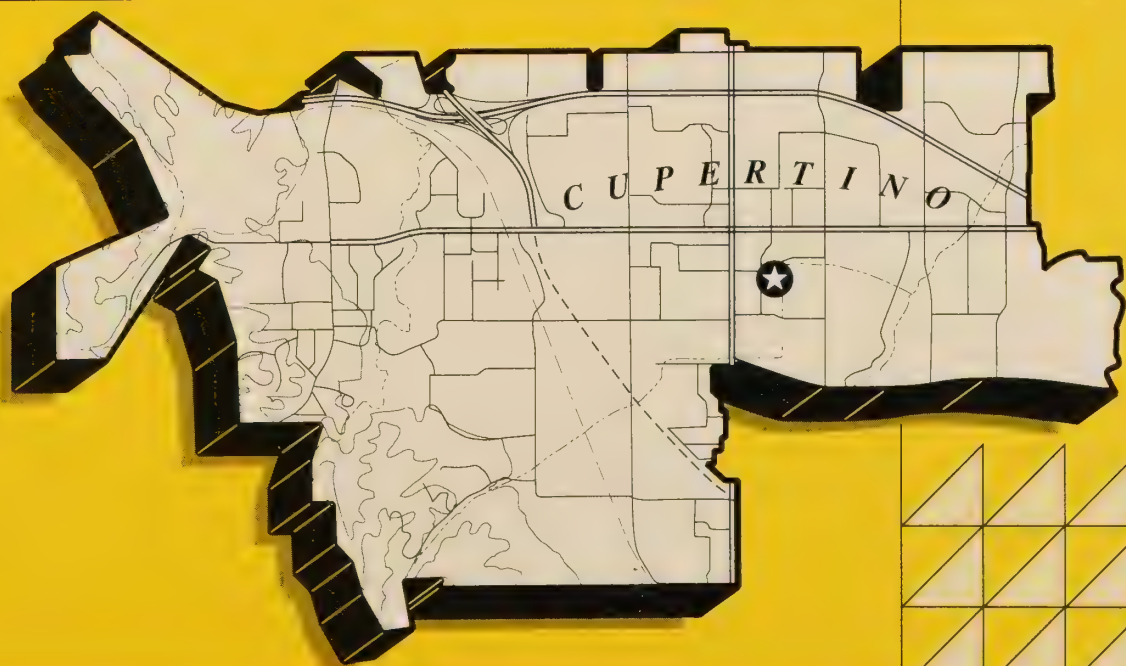
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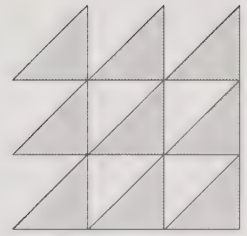
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Section 1

Introduction



The City of Cupertino is charged with developing a set of long-range goals for the City's physical and social development—goals that best meet the needs of its residents. This is accomplished through a comprehensive General Plan that contains five elements: Land Use-Community Character, Housing, Transportation, Environmental Resources and Public Health and Safety. An Implementation section follows these elements.

A VISION FOR CUPERTINO

The General Plan foresees a future for Cupertino in which our growth is carefully managed, thus maintaining and enhancing our quality of life, protecting our natural heritage and ensuring long-term economic vitality. The following details a vision for Cupertino and describes its major goals.

A LIVABLE COMMUNITY

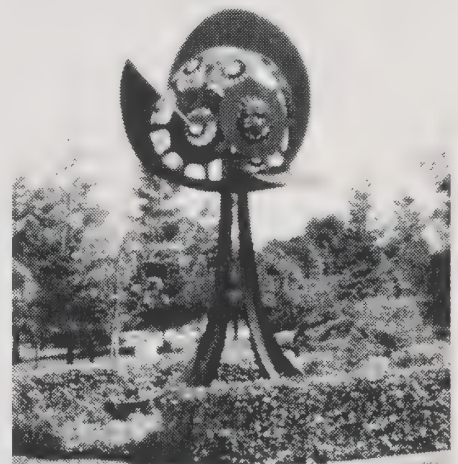
In order to create a nucleus for the community, Cupertino should focus planning and investment toward creation of a city core. That core will serve as the physical, social and cultural center for the city. The core manifests itself in the form of a revitalized retail and service sector, new restaurants, higher-density housing, public transit linkages along Stevens Creek and De Anza boulevards and public open spaces-gathering areas.

The city core should facilitate social contact, provide good pedestrian and bicycle access and foster the atmosphere for a night life. It will be an aesthetically pleasing area with ample landscaping, lighting and street furniture. The core will be pedestrian oriented with street level businesses, outdoor sidewalk vendors or cafe-style eateries, bicycle paths and urban open space for key community gathering places. The core also will be a destination area rather than a traffic thoroughfare.

Cupertino shall work with neighboring cities in partnership to find solutions to regional housing needs. The City will actively pursue opportunities to build greater numbers and varieties of housing that meets the needs of all Cupertino citizens, including young families and seniors. Additionally, future housing should be affordable for Cupertino business employees.

All new housing should meet strict design standards for landscaping and open space, and should encourage attractive, high quality architecture, that is sensitive to the impact on existing neighborhoods. New development in historical areas, such as Monta Vista, must protect traditional character.

New residential development must foster neighborhoods, providing greater opportunity for community identity and interaction within neighborhoods. New neigh-



borhoods should be inviting to enter by foot and bicycle, and should not be dominated by motor vehicle design elements.

Cupertino shall include the educational needs of its youth and consider schools as a service of the City core. The outstanding quality of the public schools in Cupertino contributes significantly to the quality of the community. The excellence and vitality of the public education system must, therefore, be maintained.

Preserve and Enhance Our Natural Heritage

Protecting and enhancing Cupertino's natural resources will ensure three critical goals:

1. Control urban sprawl by building more compact and transit-compatible residential and commercial developments in the city core and along new public transit corridors.
2. Protect the ecological integrity of critical wildlife habitat and watershed lands.
3. Provide recreational opportunities for Cupertino and area residents.

The foothills within Cupertino's planning area are an important link in the regional Bay Area greenbelt and the local greenbelt along the Santa Cruz Mountain range. Cupertino shall achieve a continuous greenbelt of public and private lands to form a permanent urban growth boundary. This greenbelt will link Stevens Creek Park, Deep Cliff Golf Course, McClellan Ranch Park, Blackberry Farm and Rancho San Antonio.

Cupertino shall aggressively seek state and local funds to purchase lands where needed, and explore transferring development credits and conservation mitigation fees to some types of developments as a means of permanently protecting valuable open space, while still protecting the rights of individual property owners.

Cupertino shall enter into a joint agreement with the County to govern the lands within its sphere of influence. This agreement will be aimed at preserving sensitive views and ridgelines by strengthening design guidelines and standards for hillside development. High priority will be given to the protection of sensitive riparian and canyon areas.

For lands outside of the urban service area and within the city's sphere of influence, Cupertino shall re-affirm its intent to maintain the County's protective hillside zoning. Hillside or other environmentally sensitive land within the urban service area shall be zoned and regulated appropriately. For these areas, the highest priority shall be to protect the land in its natural condition and promote those uses which support and enhance a rural character. Thus, important resources, such as natural vegetation, animal habitat, scenic beauty, recreational areas, open space and public access will be preserved. Land use policy should ensure public safety, health and welfare by avoiding development on or near areas of natural hazards or on environmentally sensitive areas, such as geologically unstable areas, watersheds, riparian corridors, wildlife habitat and community viewsheds.

Cupertino residents and others should have access and linkages to parks and open space through bicycle paths and walkways. All new development should be evaluated to ensure that such access and linkages to and between parks and open space is maintained.

In order to achieve the above goals, Cupertino should not expand its urban service area within the time frame of this General Plan.

Achieve Economic Diversity and Sustainability

Cupertino strives for an economically sustainable business community. The city should foster the development of new markets and a diversity of economic growth which will provide long term economic stability for the city. In order for businesses now located in Cupertino to remain here in the long term, the city should allow higher density land uses in business areas that are in close proximity to public transportation. The city should allow reasonable growth and expansion within identified areas. The city and employers, working together, shall mitigate the adverse impacts that may accompany business expansion.

Cupertino shall continue to encourage and welcome corporate participation in community affairs, particularly in the promotion of housing and public transportation. The city shall work with businesses to address the jobs/housing balance resulting from business expansion and job growth in Cupertino. Similarly, the city shall strengthen its commitment to retaining a workforce necessary to sustain a healthy business climate. This will be accomplished by implementing policies designed to attract and retain business in Cupertino, while encouraging responsible business growth.

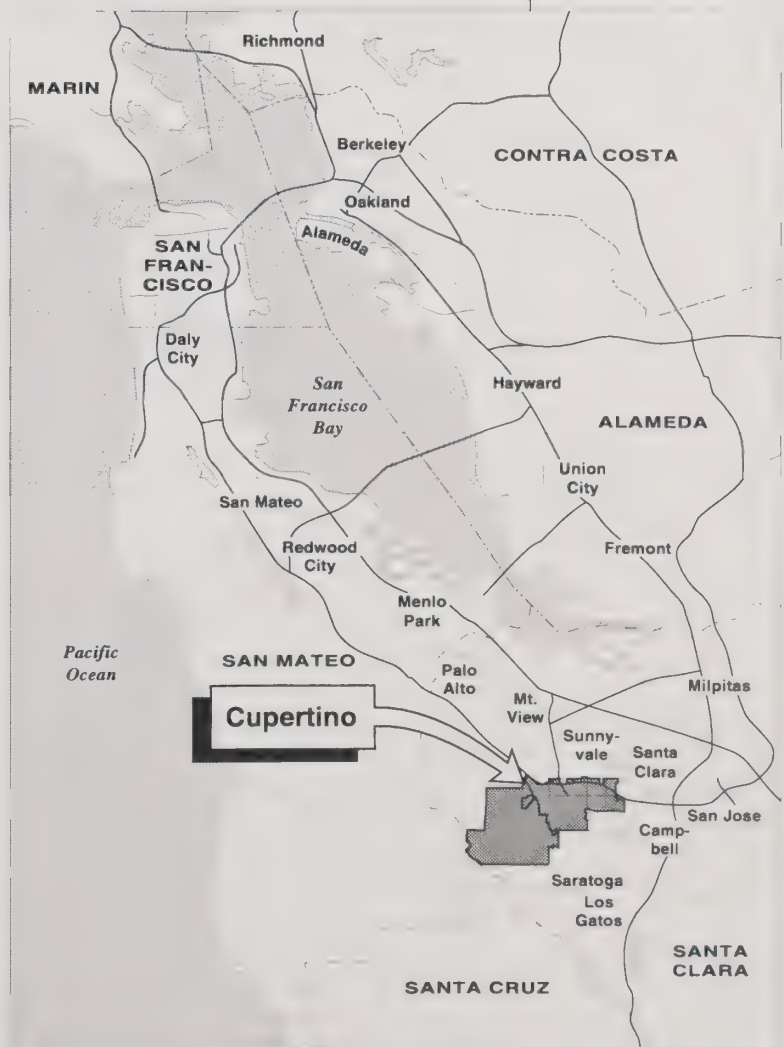
At the same time Cupertino works to foster economic growth and diversity, the city must determine an appropriate rate and amount of growth so that growth enhances, rather than detracts, from the quality of life. Cupertino should define a balance of growth that benefits the overall community.

Community Setting

Cupertino is located on the San Francisco Peninsula. It was incorporated in 1955 and has seen its land use shift from agriculture to homes and industry. Cupertino was motivated to set its original boundaries by residents who were concerned that nearby cities' attempts to incorporate the area would submerge the community's distinctive qualities and diminish home rule. In this way, "community character" has been an integral aspect of Cupertino since it was established.

LAND FORM

Most of Cupertino is on level ground that rises gently to the west. The incline increases at the channel of Stevens Creek, forming a short plateau near Foothill Boulevard. The plateau ends at the foot of the steep Montebello system of ridges, which extends along the west and south edges of Cupertino, creating a dramatic amphitheater backdrop to the valley floor.



BUILT FORM

Development in Cupertino from the late 1950s to the late 1960s generally concentrated on homes. Since the mid-1970s, construction of industry has expanded dynamically. Jobs are centered in new developments including Vallco Industrial Park, North De Anza Boulevard Industrial Park, City Center and the popular regional shopping mall, Vallco Fashion Plaza. The east, north-central and central areas of town have had the newest and most intensely urban development, while the southern and western areas have mostly retained a moderate residential character and contain a greater proportion of older, well-established neighborhoods.

GEOGRAPHICAL BOUNDARY OF THE PLAN

The boundaries are not simple. Figure 1-A shows the incorporated and unincorporated lands in Cupertino planning area. County lands are included because Cupertino land use decisions affect its residents. Also, State legislation encourages cities to plan for all areas within their "sphere of influence." General Plan decisions will not legally bind people who own property in County jurisdiction unless the property is annexed to Cupertino. Annexation policy is explained in the Plan's Implementation Element.

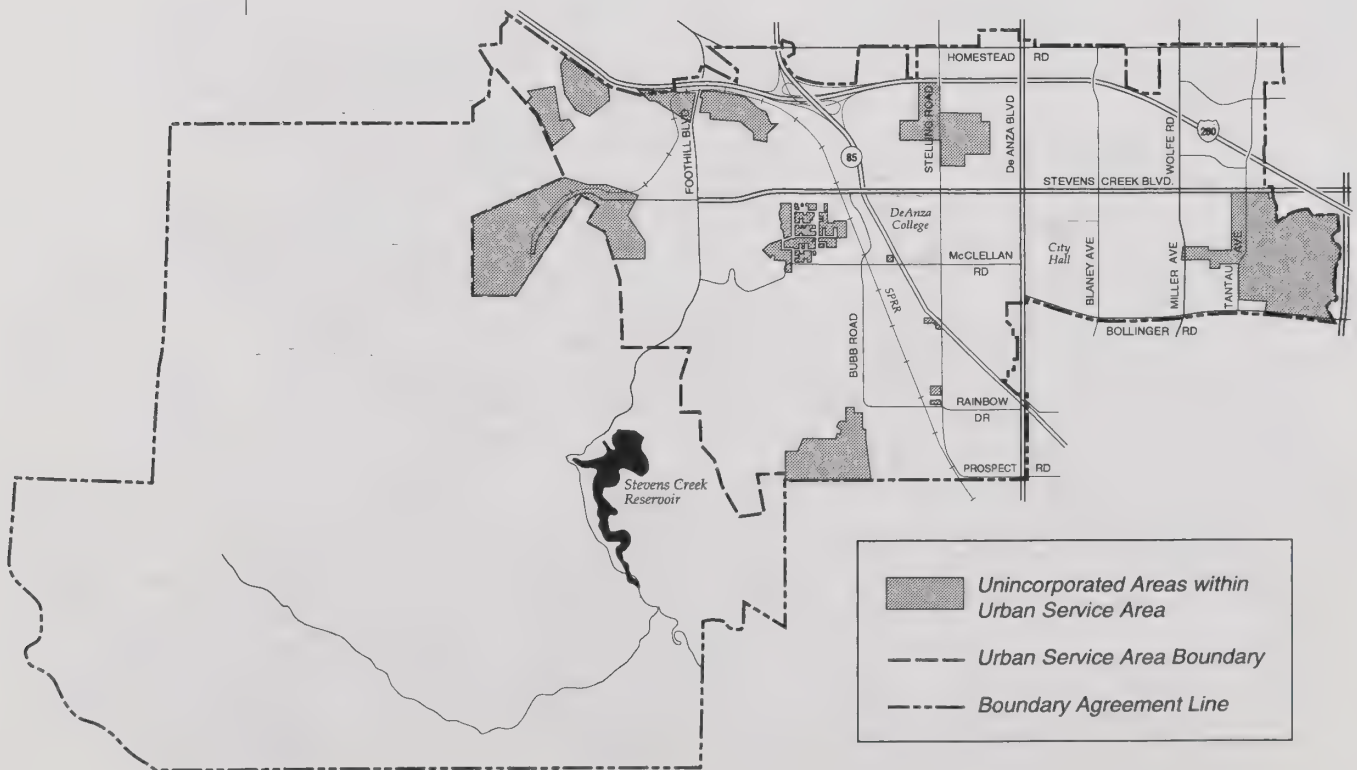


Figure 1-A. Cupertino Planning Area.

THE PLANNING PROCESS

There are four basic steps in developing a general plan.

1. Collecting data.
2. Developing alternative goals.
3. Evaluating alternatives.
4. Developing a plan to carry out the favored alternatives.

A high degree of public participation by residents, special interest groups and officials is required to formulate goals. Each major General Plan revision has involved a Citizen Goals Committee, whose recommendations are considered in the review process and largely reflected in the final General Plan document. The planning process must remain flexible to allow social and economic changes beyond the control of local government. An annual Plan review process achieves this flexibility by allowing the Planning Commission to set Plan goals based on new information. A major overhaul of the Plan will become necessary if economic and social changes are significant.

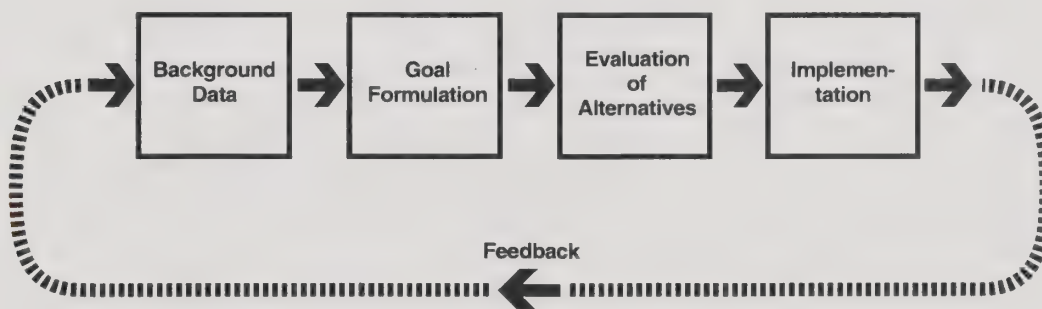


Figure 1-B. General Plan Process.

EXTERNAL FACTORS THAT INFLUENCE THE PLAN

The private market dominates land use. A public goal to increase stores, housing or industry can only be carried out if the private sector will invest in the community. Commercial and industrial investors will make their decisions based on factors that may or may not be under the control of cities. For example: Commercial investors want a market analysis that favors development, showing encouraging estimates of future population and household income and an acceptable level of competition from other commercial centers. The Plan may designate a parcel of land for high-density residential use that may or may not be economically possible because of public preferences for housing types. This explains that while Cupertino has a great deal of control over land use, such decisions must relate realistically to market forces. It is especially difficult for Cupertino or any other city when a desired land use pattern may be possible in the future but not possible in the next one to five years. The difficulty comes because landowners may find immediate development more economical due to taxes and possible lost income. In addition to marketplace constraints, the Plan is heavily influenced by policies of other local governments and by actions of other governmental agencies.

Regional agencies and local special districts are largely responsible for constraining Cupertino's planning abilities. Midpeninsula Regional Open Space District's policy of acquiring significant acreage in the lower foothills next to the western City limit has set Cupertino's growth boundary. The Cupertino Union School District Board's independent actions on school closures also plays a major role in the City's park planning and affects the social organization of residential neighborhoods designed around neighborhood schools. Regionally, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) have prepared a joint transportation plan for Santa Clara County. This plan influences not only future transportation methods and service levels but also, and, therefore, the intensity of land use permitted on properties in Cupertino's jurisdiction. The Bay Conservation and Development Commission requires counties to prepare waste water management plans that determine the location and extent of future waste disposal sites. The Bay Area Air Quality Management District (BAAQMD) determines the extent to which industry may emit pollutants into the air, thereby affecting the activities of certain industries in Cupertino. Also BAAQMD influences all future growth, as the need to comply with the Clean Air Act is related to the reduction of vehicle trips, or traffic.

KEY ASSUMPTIONS OF THE GENERAL PLAN

The General Plan's goals, policies and programs are based not only on the marketplace and governmental constraints, but on key demographic, economic and social trends. Any major changes in these trends may require the revision of the General Plan. The Plan must be reviewed yearly because these trends often occur quickly.

Demographic Assumption The fertility rate, which is the number of children a woman will bear, decreased from about 2.1 in 1970 to about 1.62 in 1980 in the San Francisco Bay Area. The fertility rate then increased each year thereafter, until it reached 2.09 in 1990, where it is projected to stabilize. "Baby boom" children of the post-World War II era are rapidly increasing the number of new households, but persons per household decreased from 2.75 in 1980 to 2.65 in 1990, according to ABAG.

Age Distribution There has been a dramatic shift in the percentages of age groups in Cupertino between 1980 and 1990. Pre-teen and teenage populations declined while adults and seniors increased dramatically. The median age in Cupertino was 32 years in 1980 and increased to 36 years in 1990. Age distribution will play a major role in allocating money to meet needs for particular age groups.

Economic Assumptions The private sector in Cupertino is dominated by high-tech electronics and computer corporations. The City serves as a corporate headquarters and center for research and development. Virtually no manufacturing takes place in the City, because land and living costs are too high. Representatives of corporate businesses indicate that the companies enjoy a competitive advantage by having facilities in Cupertino. This is because highly skilled, sought-after employees prefer working and living in the Cupertino area, with its moderate size and unique, balanced mix of high technology firms, retail center, open space, quality schools and residential areas.

Cupertino's per capita retail sales compare very favorably with retail sales throughout Santa County, although the gap narrowed in the late 1980s because of improvements to nearby shopping centers.

Santa Clara County and the surrounding region is described in a 1992 study, "Joint Venture: Silicon Valley," as having "a number of significant warnings signs [which] indicate a region out of balance. These include slower employment growth, weaker enterprise

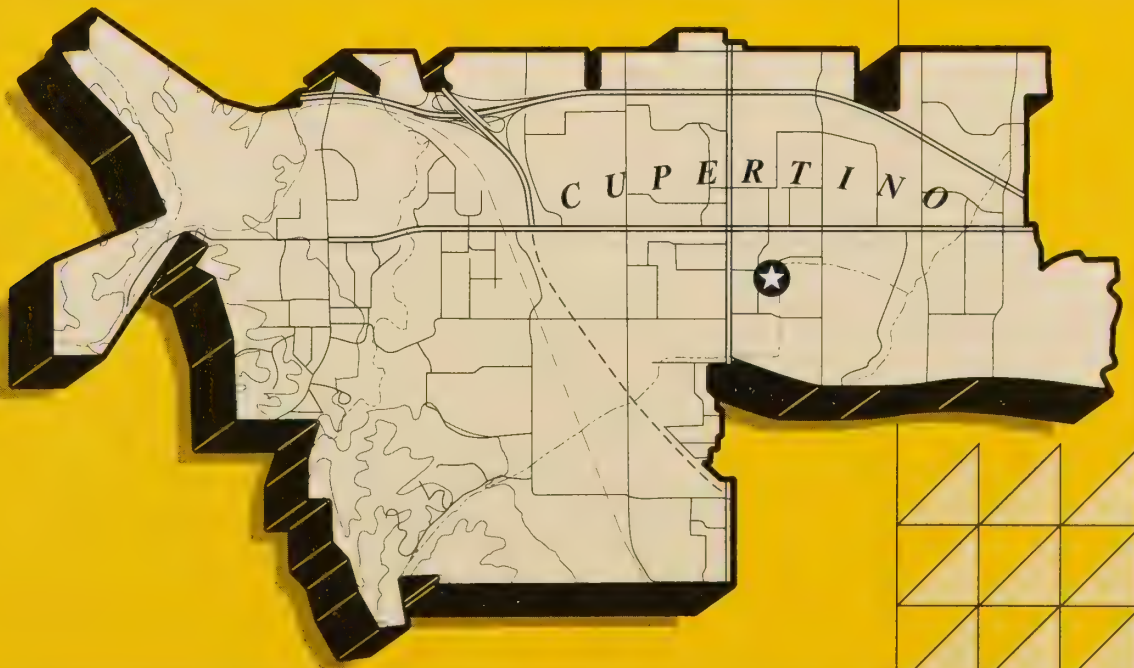
formation, a decline in venture capital financing, slow growth in pre-competitive R&D, transportation congestion, and a perceived decline in quality of life." In a special 1991 report on the retail market, ABAG describes retail and wholesale trades in the 1990s as a "time of shake-down and lean markets," partly attributable to falling disposable incomes and a weakening California and Bay Area competitive position. These observations lead to the conclusions that economic growth is cyclical and that past economic strength is not guaranteed for the future.

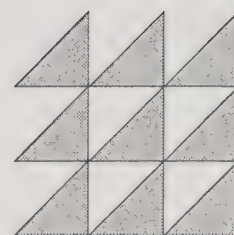
Major companies and the major retail center indicate their interest in remaining and expanding in Cupertino. In general, job growth is expected to increase in the 1990s at a slower rate than the 1980's. ABAG data show that job growth slightly diminished between 1980 and 1990, from 37,239 jobs in 1980 to 37,150 in 1990. Manufacturing and wholesale jobs decreased during this period, while retail and service jobs increased. Manufacturing, which includes research and development, is still the largest sector. ABAG's projections indicate job increases through the 1990s and beyond. Jobs are projected to increase to 41,930 in 2000.

Balancing the City's revenues and expenditures is a factor affecting Cupertino's future. Retail sales tax is a major contributor to Cupertino's revenues, so maintaining and attracting retail business is an important goal. Assuring that new development is a financial benefit to the City is also important, particularly if State funding sources decrease.

Lifestyle Trends Most Cupertino residents will continue wanting to live in single-family homes and driving their cars, reinforcing the suburban nature of the City. But, with increasing housing and land costs, and less reliance on the private automobile, along with shrinking family sizes, a shift to higher-density housing and mass transit seems inevitable.

Assumptions Influencing Public Services The General Plan assumes that the western and southern boundary of the urban service area will not be expanded in the foreseeable future because of ownership patterns, and the City's interest in city-centered growth and hillside protection. The Plan also assumes that there will be no major economic changes that will significantly alter the ability of any major service provider to fulfill its function. Finally, the Plan assumes that the City's financial mechanisms will not be limited to a point at which City government would have severe difficulty providing essential services.





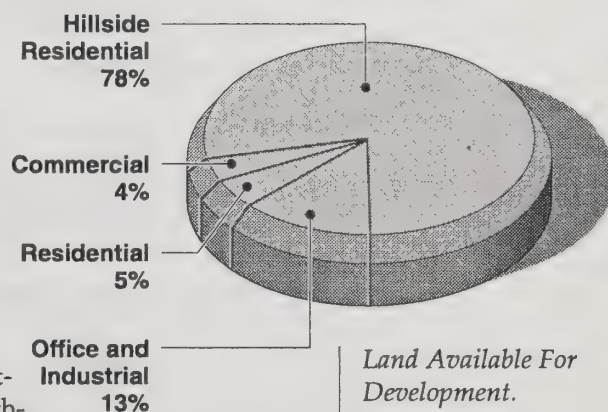
Section 2

Land Use/ Community Character

Introduction

Planning how land is used within a community provides harmony among the different uses and protects public health. Factors that must be included in this planning process are the effects on property values, the vitality of business and manufacturing and the maintenance of a strong tax base for government and school operation.

This element unifies the other elements of the General Plan by providing an overall policy context for the other elements. The Land Use Element deals with the central issue of growth and helps define the desired balance among the social, environmental and economic costs and benefits associated with that growth.



Community Character

Cupertino has a special community character, a physical setting and visual image that makes the City stand apart from its neighbors. This character contributes to the quality of life and sense of place enjoyed by people who live and work here.

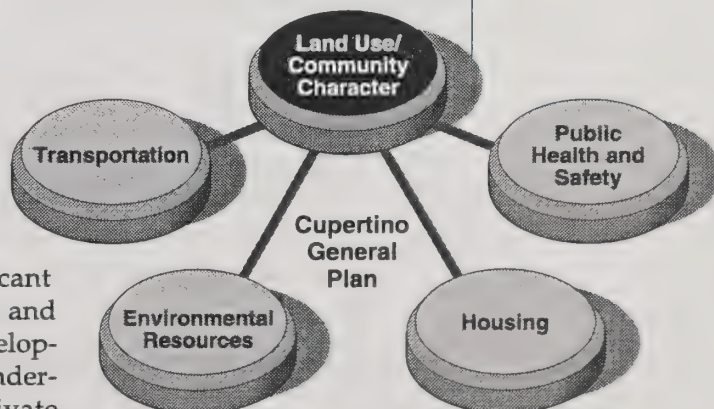
The goal of this element is to promote public and private efforts in maintaining and improving Cupertino's community character. This is done by applying design policies and principles to refine the City's image, avoiding visual contradictions that come from unguided development and protecting irreplaceable natural resources.

*Land Available For Development.
(Source: 1993
Land Use Survey,
Cupertino Planning
Department)*

Major Issues and Goals

Cupertino was incorporated in 1955; since then, it has grown to the point that it can be considered developed. The transportation network is nearly complete and the City's jurisdiction is fairly well settled.

Cupertino will expand mostly on scattered vacant sites. This development must consider the character and density of established neighborhoods. Other City development is likely to occur in areas with outmoded and underdeveloped land uses, which will be replaced by private redevelopment activities. Local concerns and County and regional urbanization will continue to influence decision making.



This element and its recommendations and policies are based on seven issues, each of which will be discussed at length later in this section.

A. COMMUNITY IDENTITY

Cupertino is located in a broader urban area, the Santa Clara Valley. City boundaries blur unless distinguished by unusual land forms or built features. The City's activity centers—De Anza College, Town Center/Crossroads and Vallco Park—are situated along Stevens Creek Boulevard. Vacant or partially developed sites along or near Stevens Creek Boulevard represent an opportunity to create an identifiable downtown for Cupertino.

B. REGIONAL DISTRIBUTION OF JOBS AND HOUSING

Jobs are concentrated in northern Santa Clara County; most homes are in south Santa Clara County. Commute traffic congests major streets and is starting to spill over into local streets and divide neighborhoods.

C. HOUSING DEMAND

Cupertino wants to house residents of all income levels. Expensive single-family houses on large lots have been built by the private market at the cost of other forms of housing. Rental and denser forms of housing may serve people whose households and lifestyles don't fit into big, expensive houses.

D. TRAFFIC MANAGEMENT

This element must balance two needs: the need to control development so it won't overwhelm the road system and the need for a sound economic base.

E. URBAN FISCAL BALANCE

The land use mix must support public service by generating enough revenue and the development must be arranged for efficient servicing. Fiscal zoning priorities may clash with other community goals including providing housing for all income levels and supplying non-emergency City services such as parks, recreation and library.

F. ENVIRONMENTAL MANAGEMENT

Land that can be developed is in high demand. Unless there are fair but firm restrictions to protect the public interest, health and safety, this demand threatens the natural and visual resources of Cupertino. There are several features that are essential elements of the character of Cupertino and must be protected and preserved. Views of the wooded hillsides of the Montebello Ridge of the Santa Cruz Mountains give the City a green backdrop. The streamside environment of the Stevens Creek Flood Plain and significant mature specimen trees must be considered carefully in the urban context.

G. HUMAN COMFORT AND COMMUNITY DIVERSIFICATION

As traffic congestion gets worse and neighborhoods become more crowded, it's more important for government to protect the physical and mental health of residents from these intrusive effects of urbanization. Social interaction and personal privacy

in living spaces and in the City at large must be balanced. The City must also offer a variety of educational, entertainment and cultural experiences throughout the day for continuous community vitality.

Community Identity

The General Plan provides a blueprint for growth in Cupertino which maintains and enhances the quality of life, protects the City's natural heritage and ensures long-term economic vitality. This can be accomplished by creating land use controls that enhance Cupertino's natural hillside setting, shape the built environment and provide for economic development.

A CREATE A SENSE OF PLACE IN CUPERTINO BY ENCOURAGING A DEVELOPMENT PATTERN THAT PROMOTES THE URBAN ENVIRONMENT WITH UNIQUE LAND FORMS AND FEATURES THAT SATISFY THE ECONOMIC, SOCIAL AND AESTHETIC NEEDS OF ITS RESIDENTS.



Figure 2-A is an urban design overlay that establishes the fundamental direction for this element. It defines the appearance and dominant activities of the desired land use pattern. The diagram defines high-intensity nodes in Town Center and Vallco Park connected by lower-intensity, heavily landscaped suburban office and commercial centers. A pedestrian-oriented downtown, the Heart of the City, containing a mixture of land uses, is planned on or near Stevens Creek Boulevard. The Sports Center, Memorial Park and De Anza College campus form a green edge on the west side of Stelling Road to define the extent of office and commercial development and the transition to less intense land uses in the western half of the City. The diagram also describes the hillside backdrop and Stevens Creek stream corridor, both of which establish the character of the City. The design concepts are refined in the urban design policy section.

Vallco Park and the industrial complex on North De Anza Boulevard are already intensely urban. Town Center has potential for new urban activity. All three of these areas have the potential for highly sophisticated buildings to enhance Cupertino's natural skyline; this will advance the long sought after goal of breaking up the current pattern of commercial strip development.

Housing near major boulevards offers an opportunity to increase streetside landscaping and experiment with interesting juxtapositions of architecture. Reserving space near major streets for housing or open space says that Cupertino wants to diminish the automobile's claim on disappearing vacant urban land and that community identity depends on an around-the-clock population for a vital downtown. By providing for and encouraging a balanced mix of land uses and intensities, the City can achieve a whole and complete community.

■ Policy 2-1: Diversity of Land Use

Provide adequate land area for employment, housing, shopping, entertainment, cultural activities, health care, personal services, recreation and open space. Encourage mixed use development of commercial/office and housing.

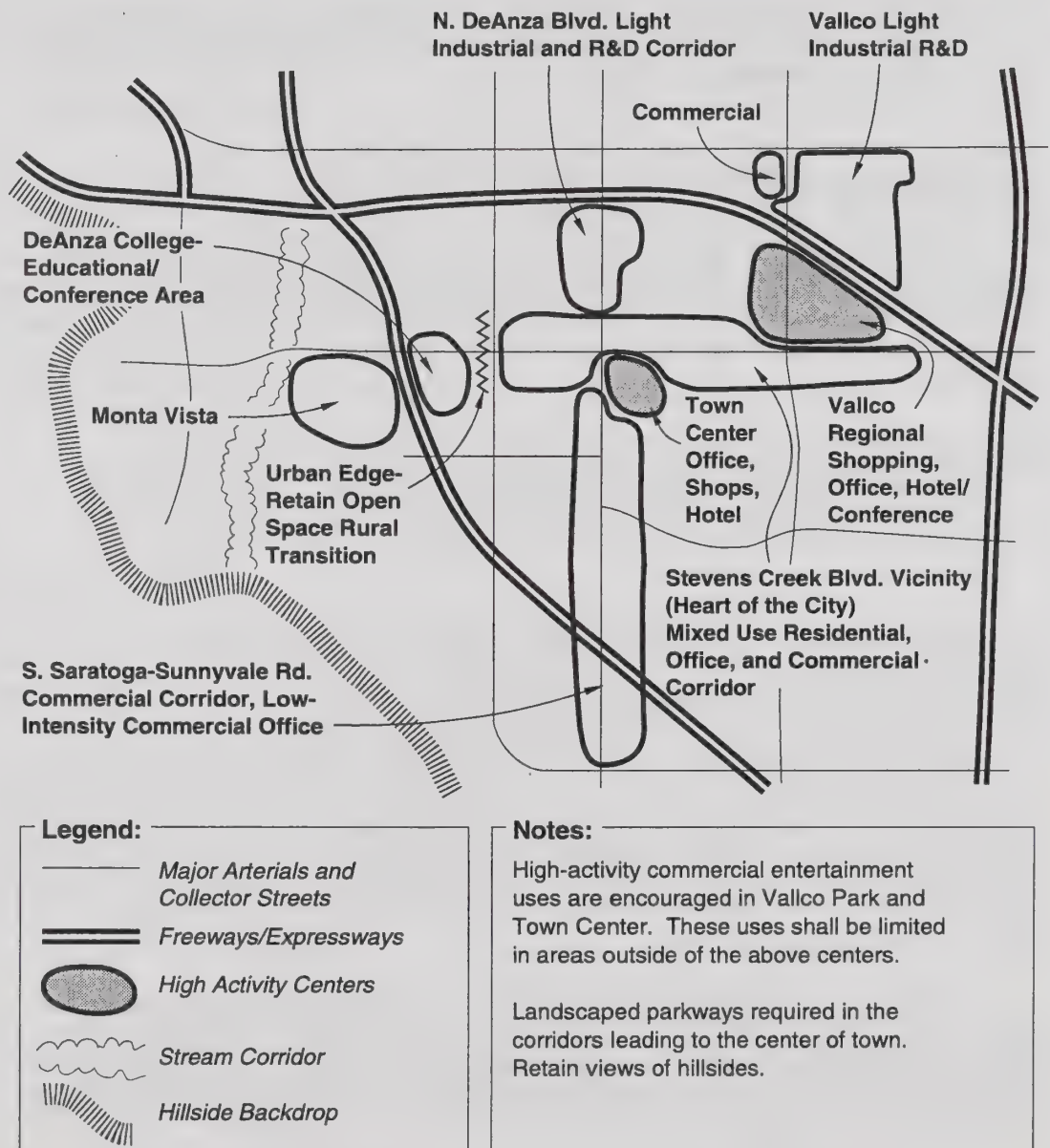


Figure 2-A. Urban Design Overlay.

Strategies

1. **Regional and Shopping Node in Vallco Park.** Provide a regional employment and shopping node within the Vallco Park planning area.
2. **Link Public Open Space Nodes in Neighborhoods.** Open space nodes within individual neighborhoods should be linked visually and physically to their surroundings to facilitate pedestrian and bicycle access and to help defeat the "barrier" effect of travelways.
3. **Neighborhood Retail Vitality.** Encourage the economic vitality of existing neighborhood retailing uses through selective zoning of new centers, and through careful definition of permissible uses.

4. **Encourage Diverse Evening Pursuits.** Encourage diverse activities, including evening hour services for entertainment, cultural and educational pursuits.

Cupertino is unusual in that it has no identifiable downtown and that most of its available commercial property is along Stevens Creek Boulevard. While Cupertino has numerous amenities and activity centers, they are scattered throughout the City. There is no focal point that creates a sense of place and serves as a source of City identity. The "Heart of the City" concept represents a challenge to create a focal point, a downtown that reflects Cupertino's character in a uniformly planned mixture of stores, housing and public facilities.

B CREATE A POSITIVE AND MEMORABLE IMAGE OF CUPERTINO BY DEVELOPING A HEART OF THE CITY ON OR NEAR STEVENS CREEK BOULEVARD AND VISUALLY AND FUNCTIONALLY LINKING THE MAJOR ACTIVITY NODES ON STEVENS CREEK BOULEVARD FROM HIGHWAY 85 TO THE EASTERN CITY LIMITS.



Policy 2-2: Heart of the City

Coordinate the efforts of private property owners on or near Stevens Creek Boulevard to plan and create a community focal point that expresses the character of Cupertino through a diversity of uses, serving City residents and scaled for pedestrians.

Strategies

1. **Piecemeal Development along Stevens Creek Boulevard.** Restrict piecemeal development along Stevens Creek Boulevard and adjacent areas until the City has adopted a specific plan for the area by means of a broad-based, citywide planning process whereby property and business owners, community groups and interested citizens all participate.
2. **Heart of the City: Stevens Creek Boulevard Specific Plan.** Prepare a Specific Plan for Stevens Creek Boulevard whose objective is to create an environment which links activity nodes and creates a Heart of the City. The Heart of the City represents a unique pedestrian-oriented activity center which will be a positive and memorable gathering place for Cupertino citizens. The Heart of the City shall be located on or near Stevens Creek Boulevard between Route 85 and the eastern City limits. The area of the heart shall be limited to make it unique. The plan shall include the following elements:
 - a) A land use plan specifying the type and arrangement of land uses to promote pedestrian and business activity. Housing is strongly encouraged along the boulevard.
 - b) A design plan which provides for a pedestrian streetscape for the heart and vehicular streetscape for the remaining sections of Stevens Creek which link De Anza College, the Heart, City Center and Vallco Park. The design plan shall contain guidelines that foster pedestrian activity, a sense of arrival and neighborhood protection.

SEE POLICY 2-29
(STRATEGIES)

- c) A traffic management plan that examines intersection performance, incorporates pedestrian and bicycling activities and provides for future mass transit.
- d) A detailed financing component that examines infrastructure costs and strategies for funding.
- e) A plan for park and recreation facilities.

An urban parkway to the Heart of the City should be developed to create a sense of arrival. New development shall face the street with small front setbacks. Median and property frontage landscaping should unify the parkway effect.

The Crossroads intersection should be developed with a distinct signature to mark its City prominence. Such improvements may include the siting of landmark buildings, street monuments or other public art works, landscaping and special pavement.

Community Development

Development Regulation

Historically, Cupertino has regulated development intensity in non-residential areas to limit traffic congestion and control the intensity of building. This regulation was mainly accomplished in two ways:

Floor Area Ratios (FARs): This determines buildable floor space by multiplying a specific value (.25, .33, ...) times lot area. FARs limit only the total building area, but do not necessarily dictate the shape or height of the structure.

Traffic Intensity Performance Standard (TIPS): This prohibits a development from exceeding a specific vehicular trip rate. The standard limits activities to those that do not exceed 16 one-way trips per acre.

The TIPS policy was generally applied to the North De Anza Boulevard and East Stevens Creek Boulevard areas. Shopping centers that existed before December 1973, when the "Core Area" General Plan amendment was passed, were exempted from the TIPS policy. The FAR policy amendment, adopted in July 1983, was applied to all remaining commercial, office and industrial zoned properties not subject to TIPS. Land-use intensity in the Town Center area was regulated by a specific traffic generation accounting system based on a specified combination of land uses.

Other features of the FARs and TIPS policies included the ability of private property owners to transfer "unused" FAR or TIPS to other properties with prior City approval and allowing higher FARs for residential dwellings in non-residential areas, but not in TIPS-governed areas.

These policies had numerous effects on the City. Non-residential building patterns have typically been low profile and uniform in height, making it difficult to focus development intensity to shape the City's built form and identity. Imbalances in commercial, office/industrial and residential development potential in relation to market demand have resulted in under utilized commercial spaces, low office vacancies and high housing demand. To address these issues, the development regulatory policies are revised as followed:

Policy 2-3: Development Reallocation

Development activity should be controlled so that the City street system is not overwhelmed with traffic and the desired transportation level of service is maintained. To meet the City's goals and priorities, the remaining uncommitted development potential that achieves the City's transportation goals should be reallocated as shown below. Further adjustments to these allocations may be necessary to ensure that the City's transportation goals are met.

Development Reallocation Table

Land Use	1990 Built	Committed Growth ⁽¹⁾	Reallocated Potential Growth	General Plan Buildout	Peak Hour Trip Factor/ 1000 sq.ft., Room or DU	Reallocated Trips
	a	b	c	a+b+c	d	c*d
Retail (sq. ft.)	3,359,000	573,000	500,000	4,431,000 ⁽²⁾	2.60	1,300
Office/Ind (sq. ft.)	7,457,000	541,000	1,294,000	9,292,000 ⁽²⁾	1.70	2,200
Hotel (rooms)	277	250	500	1,027	0.40	200
Housing (DU)	17,460	584	2,000	20,044	0.80	1,600
Total						5,300

⁽¹⁾ Committed growth refers to growth potential that has been approved through use permits, vesting maps and/or development agreements, but has not been built as of 1990. The committed growth will be reallocated by the City if a use permit expires or the project is determined to be inconsistent with the General Plan.

⁽²⁾ These numbers are flexible due to the ability to convert retail space to office space at the northeast corner of DeAnza/Stevens Creek Boulevards, as described in Policy 2-24.

This policy recognizes that a finite amount of development can take place and still remain within the desired transportation level of service. The uncommitted development potential from less than buildout properties would be "reallocated" to meet City development needs and goals. Development allocations shall be made by the City in accordance with its development approval processes and the following development priorities tables. The

SEE POLICY 2-24
(STRATEGY 2)

Development Intensity Manual will be modified to provide detailed procedures regarding development allocations.

Strategies

1. The City will modify existing Planned Development zones and area plans and/or develop new specific plans to "freeze" building areas on each retail commercial zoned or used property as of June 1, 1993. Future retail commercial growth can occur in areas that have allocated retail growth. Future retail commercial growth will not be regulated by FAR standards. Growth will be dependent upon allocation of space from retail commercial development priorities table.
2. New retail commercial growth listed in the Development Reallocation Table may be allocated as follows:

Retail Commercial Development Priorities⁽³⁾

• Along or near Stevens Creek Boulevard to support the Heart of the City policy.	250,000 sq. ft.
• Remodeling and development of major retail centers on 5+ acre sites outside of the Heart of City and on major arterial streets.	40,000 sq. ft.
• Mixed use developments with residences outside of the Heart of the City.	35,000 sq. ft.
• Development or revitalization of other commercial parcels.	50,000 sq. ft.
• Power Retailer (i.e. high volume discount retailer)	125,000 sq. ft.
• Full service hotel(s), appropriate location evaluated at time of proposal	500 rooms

⁽³⁾ These numbers are flexible due to the ability to convert retail space to office space at the northeast corner of DeAnza/Stevens Creek Boulevards, as described in Policy 2-24.

3. Office, Research and Development and Industrial growth listed in the Development Reallocation Table may be reallocated as follows:

Office/Industrial Development Priorities⁽⁴⁾

• Development potential according to base FAR constraints and transferred development credits remains with existing office and industrial parcels.*	1,033,000 sq. ft.
• Town Center & Crossroads Corners	91,000 sq. ft.
• Measurex	20,000 sq. ft.
• Non-designated pool to be allocated based on the following priorities: - Company with 1,500+ employees - Company with City corporate headquarters	150,000 sq. ft.

Housing or mixed-use development is encouraged on commercial sites which do not have existing commercial development potential, particularly if the sites are unlikely to receive commercial development allocations shown in the Retail Commercial Development Priorities table.

SEE DEVELOPMENT
INTENSITY MANUAL

SEE DEVELOPMENT
INTENSITY MANUAL

- * Office and Industrial property owners may transfer unused development potential from one property to another subject to prior City approval. Such properties must be zoned Planned Development and the degree of transfer is determined in part on the permitted land use intensity of the transferring site.

New development will be subject to traffic mitigation measures as stringent as those imposed on the Apple Gateway Project (file no. 11-U-90).

Property owners possessing bonus square footage authorized by the 1983 General Plan retain such square footage.

The base FAR for industrial designation on the General Plan Land Use Diagram is 0.33. The designation for office and office/R&D is .37.

- (4) These numbers are flexible due to the ability to convert retail space to office space at the northeast corner of De Anza/Stevens Creek Boulevards, as described in Policy 2-24.
4. Housing units listed in the Development Reallocation Table may be reallocated as follows:

Residential Development Priorities (See Figure 2-B)

• Residential density potential, based on existing general plan residential land use designations, remains with existing residential parcels.	516
• North De Anza Boulevard Area	150
• Vallco Park	500-560 ⁽⁵⁾
• Heart of the City Specific Planning Area	500
• Bubb Road between Stevens Creek Boulevard and McClellan Road	150
• Undesignated pool	184

Housing in the North De Anza Boulevard and Bubb Road areas shall generate no more peak hour traffic than the office/industrial uses it replaces.

- (5) 60 Additional units may be transferred from the undesignated category to accommodate applications 14-U-96 and 15-U-96.
5. More refined criteria for evaluating projects which request a share of these allocations shall be developed.
6. The square footage, room and dwelling unit allocations of the development priorities tables may be reviewed by the City on an annual basis to ensure that the development priorities meet City needs and goals.

SEE DEVELOPMENT
INTENSITY MANUAL

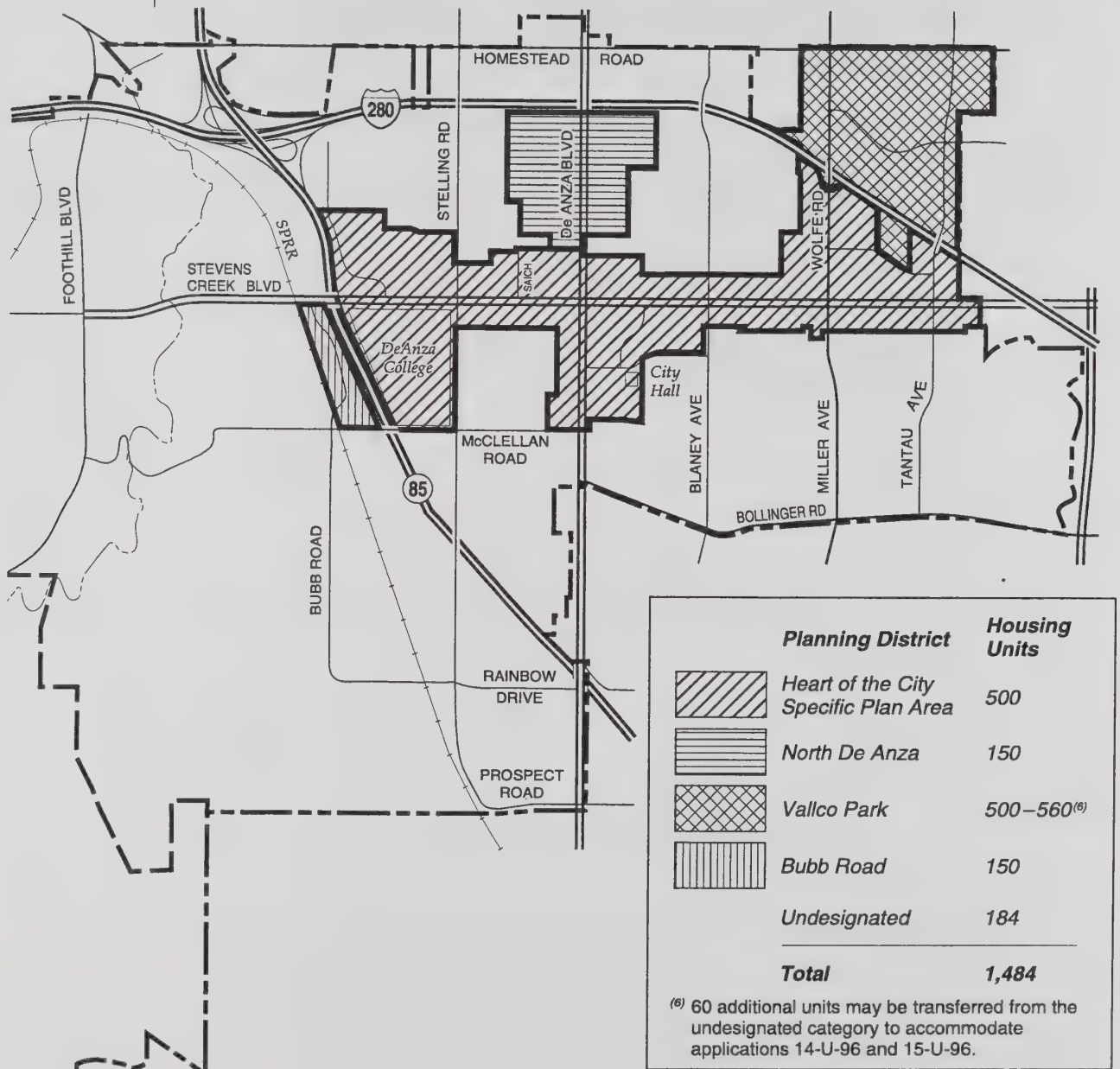


Figure 2-B. Housing Reallocation.

Special Planning Areas

TOWN CENTER

Function: A large-scale focal point for Cupertino in the City's geographical and historical center.

Location: The southeast quadrant at the intersection of De Anza and Stevens Creek Boulevards.

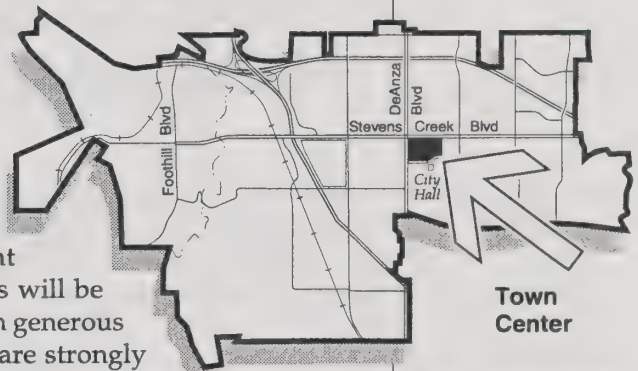
Development Activities: Offices, stores, entertainment businesses, housing, cultural facilities and restaurants will be contained in buildings with varied form, combined with generous plazas. Mixed use buildings and government offices are strongly encouraged. A 250-room hotel complex has been previously approved. Plans shall include areas for park and recreation facilities.

Town Center developers are encouraged to submit development proposals which incorporate, to the greatest extent possible, the maximum number of dwelling units allowed by the General Plan.

The maximum 45,000 sq. ft. of non-residential space designated for the site east of Torre Avenue shall be service oriented, professional office and/or community or local retailing activities.

Building Heights: The maximum building height is defined by the City Center twin towers. Maximum building height in other portions of this planning area is defined by the heights listed in the building heights table.

Development Intensity: See development priorities tables.



SEE 4-U-86
2-Z-83

SEE POLICY 2-2,
POLICY 2-24
(STRATEGIES)

SEE HEART OF THE
CITY SPECIFIC PLAN

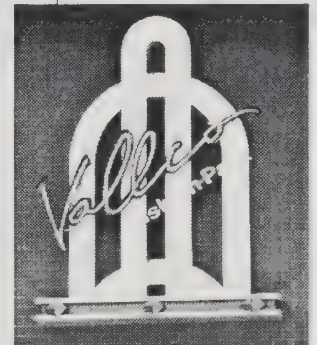
VALLCO PARK

Function: Mixed use, highly urbanized regional commercial and employment center.

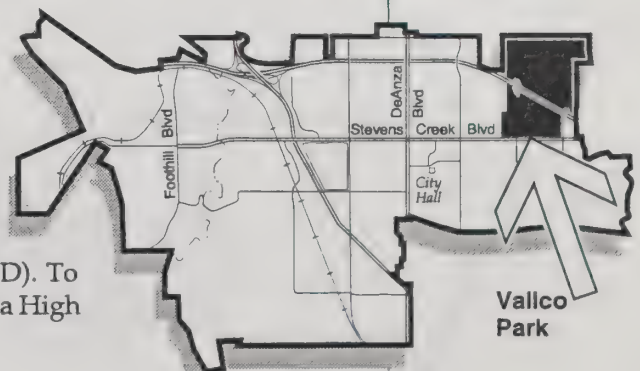
Location: Area bounded by Stevens Creek Boulevard, Homestead Road, the eastern City limit line and the western properties fronting Wolfe Road.

Development Activities: Vallco Fashion Park and the multiple-story financial center are in place. A hotel complex, a conference facility and related shops/services and additional office, industrial, residential and other ancillary uses may be located in the Vallco Park Planning Area. Plans shall include areas for park and recreation facilities. Plant tall trees along the I-280 frontage which will reach a minimum height of 50 ft. at maturity. Avoid parking structures along the Stevens Creek Blvd. frontage, and minimize the height and bulk of parking structures visible from public streets.

Building Heights: See building heights map (Figure 2-D). To better define the Vallco Park area west of Wolfe Road as a High



SEE 1-Z-83
SEE POLICY 2-24



Activity Center, a Master Plan shall be developed for each property prior to approval of a development agreement for the area and/or any building exceeding 45' in height. This Master Plan will include a description of building heights, parking provisions and general landscaping treatments for the area.

Development Intensity: Base intensity is regulated by the following floor area ratios:

Office .37 FAR Industrial .33 FAR

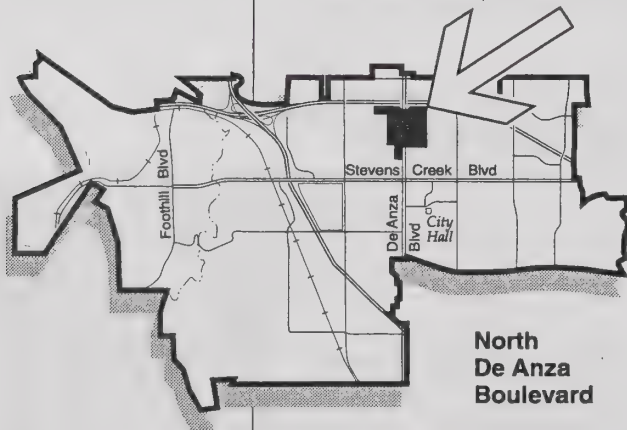
SEE POLICY 2-24
(STRATEGIES)

The "Lester" property located in the northeast quadrant of Tantau Ave. and Stevens Creek Blvd. and the "Old Hotel Site" located in the southeast quadrant of Pruneridge Ave. and Wolfe Road have no FAR development potential because development intensity was transferred to other sites.

SEE HEART OF THE
CITY SPECIFIC PLAN

The Vallco Fashion Park regional shopping center site is allocated 535,000 sq. ft. of additional mixed use commercial, office, industrial and/or hotel building space above the 1,110,700 sq. ft. of space which existed on July 1, 1991. The precise mix of land uses shall be determined via an approved use permit.

Tandem Computers is allocated 450,000 sq. ft. of additional office and industrial space over and above the building areas allowed by designated FARs. The additional building area may be allocated to areas located east of Wolfe Road, south of Pruneridge Ave., and north of Stevens Creek Boulevard.



NORTH DE ANZA BOULEVARD

Function: Business offices and research and development activity with some stores.

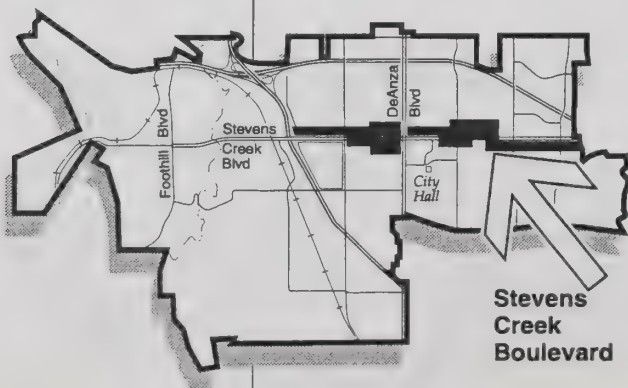
Location: Properties between Stevens Creek Boulevard and Interstate 280 on North De Anza Boulevard.

Development Activities: Mixed use commercial, office, industrial and residential. Plans shall include areas for park and recreation facilities.

Building Heights: See building heights map (Fig. 2-D).

Development Intensity: See development priorities tables.

SEE NORTH
DE ANZA SPECIFIC
PLAN, POLICY 2-24
(STRATEGIES)



STEVENS CREEK BOULEVARD

Function: Mix of commercial retail centers and general office buildings. Mixed use housing developments are permitted.

Location: Stevens Creek Boulevard east of Highway 85 to the eastern City limit line.

Development Activities: Retail, offices and mixed use projects that include housing. Plans shall include areas for park and recreation facilities.

Building Heights: 30 to 45 feet depending on distance from adjacent residential neighborhoods. Taller buildings up to 60 feet may be allowed at the Crossroads corners (at the intersection of De Anza and Stevens Creek boulevards), except the southeast corner. See building heights map (Figure 2-D).

Development Intensity: Existing and zoned office uses have a base development entitlement of .37 FAR. Commercial development requires a development allocation.

MONTA VISTA

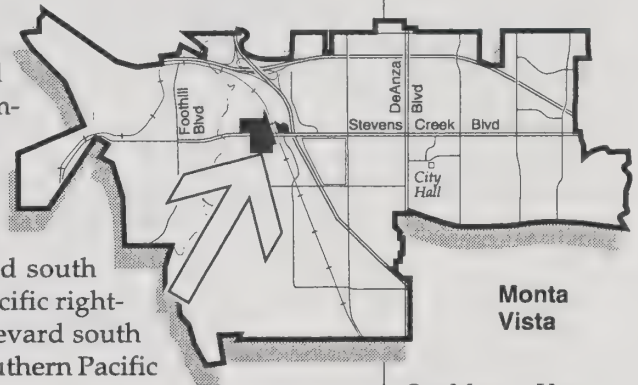
Function: Monta Vista is the commercial and residential district that predates Cupertino's incorporation. The commercial district should serve as a commercial center for Monta Vista and its adjoining neighborhoods. Residential use areas should be retained and enhanced.

Location: The commercial area includes the north and south sides of Stevens Creek Boulevard from the Southern Pacific right-of-way to Byrne Avenue and from Stevens Creek Boulevard south to Granada Avenue and from Orange Avenue to the Southern Pacific Railroad right-of-way.

The residential areas south of Stevens Creek Boulevard are bounded by Granada Avenue to the north, Byrne Avenue to the west, Imperial Avenue to the east, and McClellan Road to the south. The residential area north of Stevens Creek Boulevard is bounded by University Avenue to the north, Peninsula Avenue to the west, Alhambra Avenue to the east, and Stevens Creek Boulevard to the south.

Development Activities: Mixed use commercial, office and residential on Stevens Creek Boulevard. Balance of area is designated for a variety of residential types and densities. Refer to Area Plan inset on Land Use Map.

Building Heights: Two-story buildings with some three-story elements.



SEE HEART OF THE CITY SPECIFIC PLAN

SEE MONTA VISTA DESIGN GUIDELINES, CITY COUNCIL ORDINANCE 1270 (SOUTH OF STEVENS CREEK BOULEVARD) AND CITY COUNCIL ORDINANCE NO. 933 (PENINSULA AVENUE AREA)



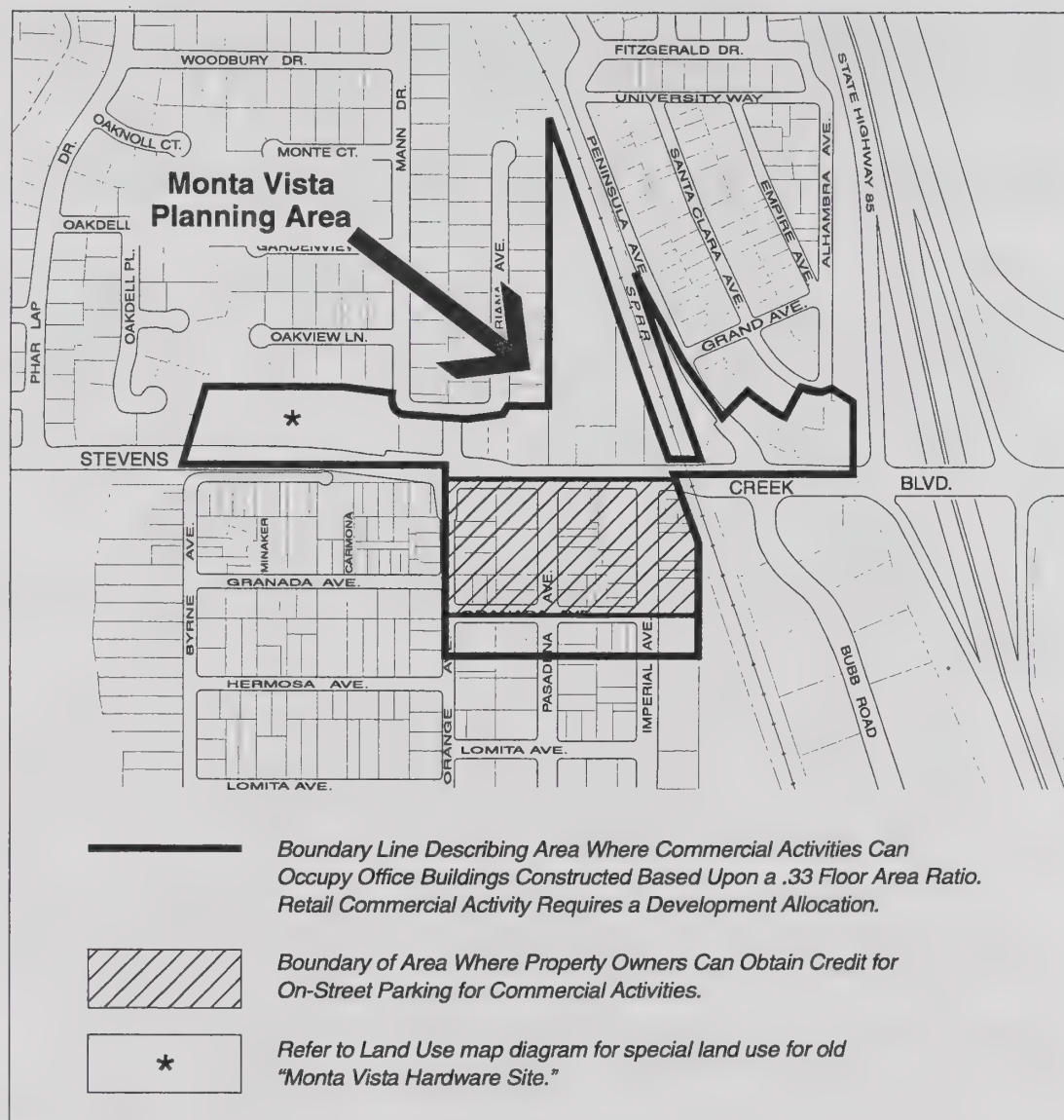


Figure 2-C. Monta Vista Land Use Intensity.

Development Intensity:

Policy 2-4: Land Use Intensity Regulation by FAR

Regulate land use intensity for properties described in Figure 2-C by a .33 Floor Area Ratio for industrial and office activities. Development intensity for other non-residential use areas requires a development allocation.

Policy 2-5: Commercial Blight and Noise Intrusion

Work to ensure that blight and noise from commercial and industrial uses do not intrude upon residential neighborhoods.

SEE POLICY 2-19,
POLICY 2-34

Policy 2-6: Interconnected Access, Shared Parking of Individual Properties

Ensure that individual properties developed independently of surrounding sites have interconnected pedestrian and vehicle access and shared parking.

Policy 2-7: Housing Units Removed Under Eminent Domain

Require that housing units removed under eminent domain proceedings be replaced on a one-for-one basis within the same geographical area and that the people who were displaced can afford the units.

Policy 2-8: Architectural Barriers

Eliminate architectural barriers to pedestrian mobility.

Policy 2-9: Residential Street Improvements

Maintain a semi-rural appearance with residential street improvements.

Policy 2-10: Neighborhood Landscaping

Preserve existing neighborhood landscaping features during redevelopment. Emphasize on-site parking instead of street frontage parking.

Policy 2-11: Mixed-Use Development

Allow mixed-use development within the area bounded by Granada Avenue, Stevens Creek Blvd., Orange Avenue and the SP right of way to rely on public parking on Pasadena and Imperial avenues to meet the off-street parking needs for the commercial part of the project.

Policy 2-12: Storefront Appearances

Require commercial and office structures to exhibit a traditional storefront appearance to the public street. Require buildings intended initially for office use to be designed to accommodate future entrances from the sidewalk for retail shops. Do not permit the building to be separated from the public sidewalk by extensive landscaping or changes in elevation.

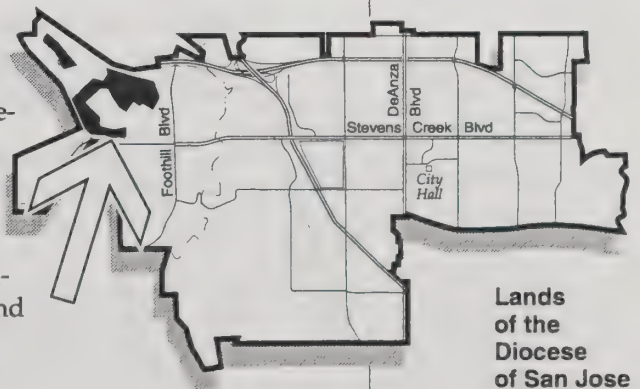
Comments:

The commercial district is within the City limits; the residential district contains County islands. Because the jurisdiction is mixed and there is desire to retain the historical atmosphere, the City developed the Monta Vista Design Guidelines which contain explicit development standards to carry out this general policy framework.

LANDS OF THE DIOCESE OF SAN JOSE

Function: This area has unique characteristics which define the areas suited for development as well as the areas appropriate for open space uses. Areas with the least environmental constraints can function as residential uses. Those with the most constraints, such as steep slopes, high vegetation and wildlife value, and are visually sensitive, etc., function as wildlife habitat, private and public open space and recreational areas.

Location: Bounded by Interstate 280, Cristo Rey Drive, Stevens Creek Boulevard.



SEE 1-GPA-93

Development Activities: Residential, private and public recreation, cemetery, as located in the map for the Diocese Special Planning Area.

Building Heights: See RHS regulations (Section 19.40 of the zoning ordinance) except as designated on the Land Use Map for this area.

Development Guidelines:

Land Use Intensity

Regulate residential land use intensity through a planned development zoning district.

Access

Access to residential development shall be as shown on the Land Use Map. Exact alignments shall be determined at the project development stage. Pedestrian and bicycle traffic shall be allowed on emergency access routes. Access other than for emergency, pedestrian and bicycle use to St. Joseph Avenue shall be precluded through such tools as an easement and project design.

Riparian Corridor Protection

Development activities shall be located 100' from the edge of the riparian vegetation, and open space easements are required which restrict uses within 100' to maintain existing conditions. Fencing of lot lines shall not interfere with wildlife movement.

Tree Protection

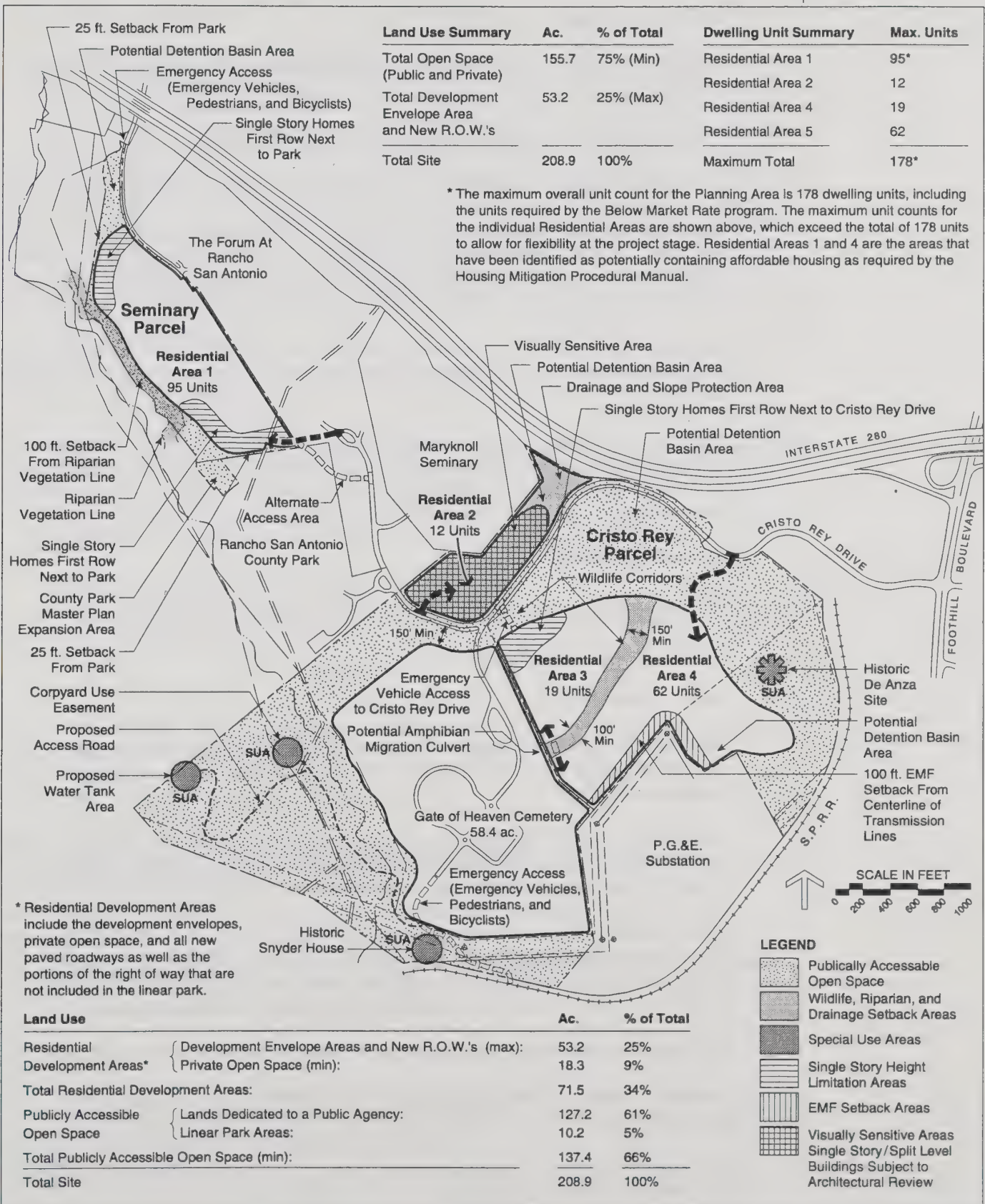
Retain trees on the Seminary parcel according to the following schedule: Retain the healthy native trees. Retain as many non-natives as possible. Retain trees near the riparian zone and wild lands of San Antonio County Park and the deodor cedars in the center of the site. (Refer to Thomas Reid report of 5/24/95, items 3 & 4.) Retain the dead trees in the retention basin where feasible. Provide a realistic balance of existing and replacement trees, as outlined below. Require bonds to protect specimen trees during construction.

Retain as many mature trees as possible to continue the tree canopy as a backdrop for the new houses.

Retain the existing tree screen on the Seminary and along the creek or provide replacement landscaping buffers adjacent to and in the viewshed of the Park and Open Space preserve to the extent feasible.

Eucalyptus groves may be removed unless retention is needed for a specific reasons, such as visual screening or wildlife habitat. If retained, they could be considered for removal at the time that new visual screening or native vegetation has matured.

Mature trees which are diseased or unsafe may be removed under the guidance of a registered arborist. Replace each oak removed with five of the same species. If oaks are retained, develop an oak woodland management plan.



Wildlife Protection

Preserve all oaks 19" dbh or greater for protection of the Pallid bat if determined to be present.

If tree removal is required, remove outside of nesting season.

Time the demolition of the Seminary building when bats are least likely to be present.

Design development to avoid affecting the hydrology of the seep, as indicated in the land use map. Demarcate the buffer area with a fence that allows wildlife movement. Should it be needed to protect the red-legged frog, install an amphibian culvert under the residential road that crosses the wildlife corridor leading to the freshwater marsh.

Increase the forage value of remaining grassland habitat on the Cristo Rey parcel to benefit raptors by developing a habitat management plan, for both the grassland and wetland areas.

Provide two wildlife corridors in the Cristo Rey development area, with a minimum width of 150 feet between Cristo Rey Drive and the development to the southeast and a 100-150 foot minimum between the two development areas, as shown on the map for the Diocese Special Planning Area.

Vegetation Protection

Emphasize native plant materials and avoid invasive landscaping materials.

Emphasize drip irrigation systems.

Visual Considerations

Provide landscaping and possibly berms to screen new houses from the park, public roadways, and existing development, while retaining the natural setting and views as much as possible.

At the zoning stage, consider an architectural review procedure. The architectural design will incorporate elements of Cupertino's traditional historic residences. The homes will include classic craftsman and ranch style elements to create a unique rural atmosphere. Porches and other design concepts that foster enhanced neighborhood interaction shall be incorporated. The residential structures shall take on the appearance of homes built with traditional materials that can weather over time and blend into the natural surroundings. Careful native landscaping within the linear park areas and all buffer zones shall be a part of and enhance the architecture.

Select roof and wall materials and colors to blend with the background.

Architectural profiles and grading should conform to and be subordinate to the existing landform.

Landscaping shall be provided to screen the water tank, and the tank shall be painted a natural and non-reflective color.

Parks and Open Space

Provide public and private open space as shown on the Land Use Map. Public open space areas appropriate for City ownership may include the Cristo Rey area (historic knoll and red-legged frog habitat area). Appropriate areas for County ownership may be the buffer area west of the cemetery and riparian corridor area and hillside area southwest of the cemetery. Specific ownership boundaries, public access and uses shall be determined prior to or concurrent with the project development stage. Public open space shall consist of approximately 65% of the land. Passive uses, such as trails or vista points, are likely open space uses. Transfer of the public property to any other public entity acceptable to the City Council shall occur prior to recordation of the final map. To assure park use, the City shall be given the right of first refusal for no value if the agency to which it is transferred disposes of the property. Private open space shall be secured by tools such as dedication of development rights or a private open space zoning district.

Purchase of public open space shall be pursued, should it not be volunteered as part of the project.

A neighborhood park may be considered for the property. At a minimum, tot lots or play apparatus areas shall be located in both the Seminary and Cristo Rey areas.

Direct development away from the Williamson Act parcels until the contract's non-renewal period expires or is canceled.

Proximity of Development to Cemetery

Consider the proximity of residential development to the cemetery to minimize intrusion on the cemetery use.

Grading and Geology

All site development activities shall comply with the City's grading ordinances unless modified through a planned development agreement.

Conduct site specific seismic and slope stability studies for roadways and structures at the project stage.

Restrict grading during the rainy season to reduce erosion. If unavoidable, implement erosion control measures.

Drainage

A final drainage study and improvement plan shall be required at the project stage. A flood detention basin should be incorporated into the project designed to minimize affects from runoff during large storm events.

Housing

Conformance to the Housing Mitigation Manual is required, except that affordable housing units shall be provided on site and shall be duet-style units. These units shall be counted in the total of 178 units.

Public Services

A 2 million gallon water tank shall be provided for the project, in conjunction with the City of Cupertino's water needs. Other locations or means to reduce visual impacts to less than significant shall be explored. Tank height shall not exceed 30 feet, unless not visible, the top of the tank must be at least 623± elevation, and tank edges shall be rounded.

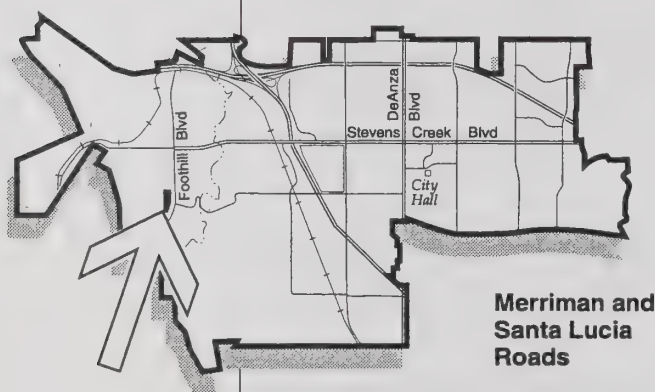
Participation in off-site improvements, as they relate to project impacts, may be required at the project level.

Historic House

Investigate possible historic preservation status or use for the Snyder house located in the southeast portion of the property.

Electromagnetic Fields

A setback of 150 feet from the centerline of the transmission lines to building envelopes shall be maintained.



MERRIMAN AND SANTA LUCIA ROADS

Function: The area, subdivided in 1917, has duplexes and single-family homes. To recognize standing viable duplexes, legally constructed duplexes may remain in the section of the planning area that is planned for up to five units per acre and will be rezoned to a duplex zoning district.

Location: Bounded by Santa Lucia Road, Alcalde Road, and Foothill Boulevard.

BALANCE OF COMMERCIAL, OFFICE AND INDUSTRIAL AREAS

Building Heights: Two stories, with some parts of buildings as high as three stories, if the additional height can be found to add diversity and interest to the structure and does not hurt surrounding land uses, especially residential districts.

Development Activities: Refer to Land Use Map.

Development Intensity: See development priorities tables and .33 FAR for office, and .33 FAR for industrial.

Housing

Cupertino, like most cities, is organized into neighborhoods. Some neighborhoods have a large variety of activities and others have fewer. Any neighborhood must be planned carefully to be sure that its residents live safely and comfortably and that their property investment is protected to a reasonable degree.

SEE DEVELOPMENT
INTENSITY MANUAL



The choice of a home is as much an emotional as a financial investment. When people feel they are part of their neighborhoods, and responsible to their neighbors, cooperative relationships can flourish. Neighbors can help watch children at play and help protect property against burglary and other crime. Property owners may also be encouraged to continue to maintain their homes to a high standard.

C ENHANCE AND PROTECT THE INTEGRITY OF RESIDENTIAL NEIGHBORHOODS.

HOUSING VARIETY

The private housing market is now geared to big, expensive homes on large lots to the exclusion of higher-density housing. Since available housing dictates who moves into a city, this trend will discourage households with different lifestyles from living in Cupertino and adding to its vitality.

Cupertino encourages a variety of housing types. People with low or moderate incomes can be excluded from living in Cupertino when there is no suitable housing. These include the elderly, the handicapped, newly formed households and students.

Current zoning regulations perpetuate the single-family detached house. However, skilled designers can fit more intense residential buildings into scattered, empty lots without harming the single-family neighborhood appearance.

■ *Policy 2-13: Full Range of Housing Opportunities*

Provide for a full range of ownership and rental housing unit densities, including apartments and other high-density housing.



Strategies

1. **Conversion of Commercial Lands to Residential.** Encourage conversion of commercially designated land to residential, subject to consideration of design and existing neighborhood character and municipal services and utilities.
2. **Residential Development Exceeding Maximums.** Allow residential developments to exceed planned density maximums if they meet a special community social goal and the increase in density will not overload neighborhood streets or hurt neighborhood character.
3. **Flexible Residential Standards.** Allow flexible residential development standards in subdivisions and planned residential zoning districts, such as smaller lot sizes, lot widths, floor area ratios and setbacks.

Policy 2-14: Housing with Other Development

Consider housing along with non-residential development, permitting it in addition to the non-residential development.

Policy 2-15: Scale of Residential Development

Ensure that the scale and density of new residential development and remodeling is reasonably compatible with the City's predominant single-family residential pattern, except in areas designated for higher density housing.

Strategies

1. **Residential Development Compatibility With Neighborhood.** Development intensity may be reduced below the minimum in the land use diagram if neighborhood compatibility standards cannot be met.
2. **Reduction of Building's Apparent Size.** Keep visual intrusion into established neighborhoods to a minimum and reduce the apparent size of the building by using different land levels.
3. **Neighborhood Compatibility Work Program.** Staff shall work with the Planning Commission to develop additional residential zoning and subdivision controls to protect neighborhood character from incompatible new residential construction. Possible tools include height limitations and an indexed floor area ratio (FAR).

Policy 2-16: Compatibility of Lot Sizes

Ensure that zoning requests related to lot size consider the need to preserve neighborhood land use patterns.

Strategy

Increase the minimum lot size if the proposed new subdivided lot size is smaller than and not compatible with surrounding neighborhood.

Policy 2-17: Housing Variation in the Urban Core

Encourage variations from the regulations of the zoning district for properties in the urban core area in housing type and increased density, making sure that the development is consistent with the visual character of surrounding buildings.

PRIVACY

A successful residential environment should give people a chance to socialize when they choose to and space to be alone, both inside and outside the home. City attention to privacy consideration during the development approval process can go a long way to set homesites apart from each other. Complete privacy is not possible in a city and people must balance the need for isolation and the need to live within an urbanized area.

Policy 2-18: Privacy in Site Design

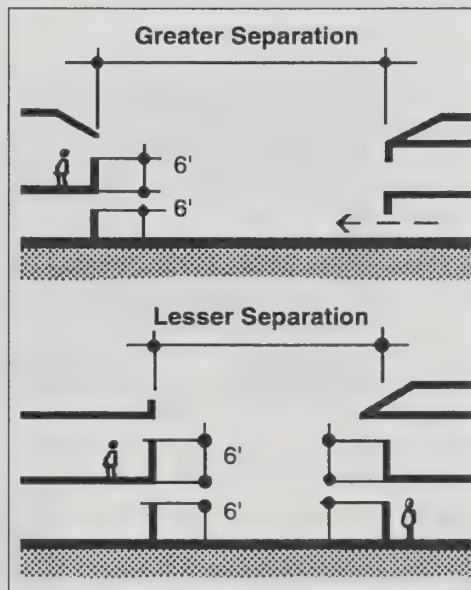
Ensure that the site design for a residential project has private indoor and outdoor spaces for each unit and common outdoor recreation space.

Policy 2-19: Neighborhood Protection

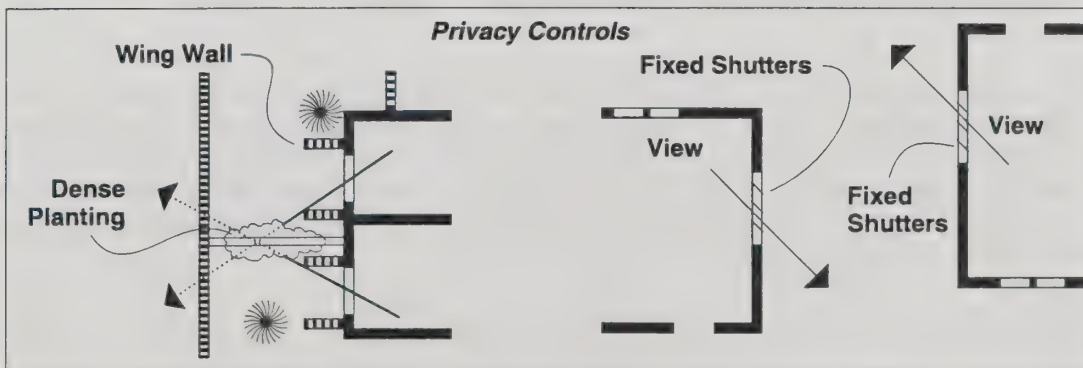
Protect residential neighborhoods from noise, traffic, light and visually intrusive effects from more intense developments with adequate buffering setbacks, landscaping, walls, activity limitations, site design and other appropriate measures.

Strategy

For each planning area, create zoning or specific plans that consider the following measures to reduce incompatibilities between new development and existing residential neighborhoods: daylight planes, minimum setback standards, landscape screening, acoustical analysis, location and orientation of service areas away from residential uses and limitations on hours of operation.



SEE POLICY 2-35,
POLICIES 4-5 AND 4-6



■ *Policy 2-20: Minimizing Privacy Intrusion*

Keep the sights and sounds of the neighbors from intruding on residents. Techniques can include greater building setbacks, wing walls, window shutters and non-transparent glass.

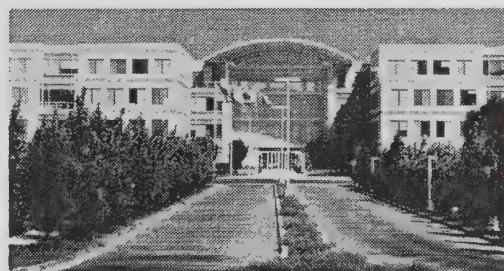
NEIGHBORHOOD AWARENESS

Burglary, vandalism, and other crimes occur in all neighborhoods. Investigating and solving crimes is the job of the police; crime prevention is everyone's job. Design of new buildings must include security measures, so that the people living or working there will feel safe and so police won't have to respond to so many calls. Building design and placement should let neighbors watch each other's properties and children's play areas.

■ *Policy 2-21: Designing for Security*

Use design techniques in new development and rehabilitation to increase security and personal safety and to increase neighborhood awareness.

SEE POLICY 6-39



Economic Development

Balancing land use intensity against the traffic-carrying capacity of the street network is a major emphasis of the City's land use policy. The objective of the development allocation policies is to ensure that desired development will not overtax the transportation system. The policy, however, must also consider the economic health of the community and find ways to encourage redevelopment of older retail centers, as well as provide for the growth of the City's business community.

Policy 2-22: Monitoring for Over-Saturation

Continue to monitor development activity, fiscal effects and development rates to avoid short-term over-saturation of the market.

The City's goal to achieve a balanced community is enhanced by the development and operation of conference facilities to be located in a core area business and office center. Conference facilities would:

1. Provide a meeting and gathering space for official functions that would otherwise be held outside Cupertino.
2. Provide meeting and support services for corporations which are headquartered in the City.
3. Strengthen the viability of a full service hotel, which in turn would provide fiscal benefits to the City.

Policy 2-23: Conference Facilities

The City may enter into a relationship with a hotel/ conference facilities developer to encourage such a center.

Urban Design

The Community Identity section of this Element outlined the urban design strategy for the City. This section provides more specific guidance on the community's urban design expectations. Past planning has encouraged the development of attractive and interesting environments that are sensitive to adjacent land uses. As the city matures, design expectations will evolve. Current design policies will challenge the community to develop the cohesive designs that create livable outdoor spaces and instill a sense of civic identity.

Cupertino encourages variation in form, scale and intensity of building activity. Areas of high-intensity development offer the greatest opportunity for innovations in construction and the City encourages creative approaches to large-scale site planning.

The size, color, material and design of buildings—and the placement on their sites—result in a cumulative design statement that shapes the image of the City. Figure 2-A describes the two high-intensity nodes at Town Center and Vallco Park. The links between Town Center, Vallco and other activity centers in the City must be weighed along with a consideration of the design relationship between various use types. The City does not impose a specific architectural style; it seeks a variety of building forms and materials. Cupertino stresses the need to establish design harmony between differing uses, for example, between commercial and residential.

Policy 2-24: Urban Focal Points

Intensify the focus of urban development in Vallco Park, North De Anza Boulevard, Town Center, and Stevens Creek Boulevard planning areas, subject to design and transportation network controls.

Strategies

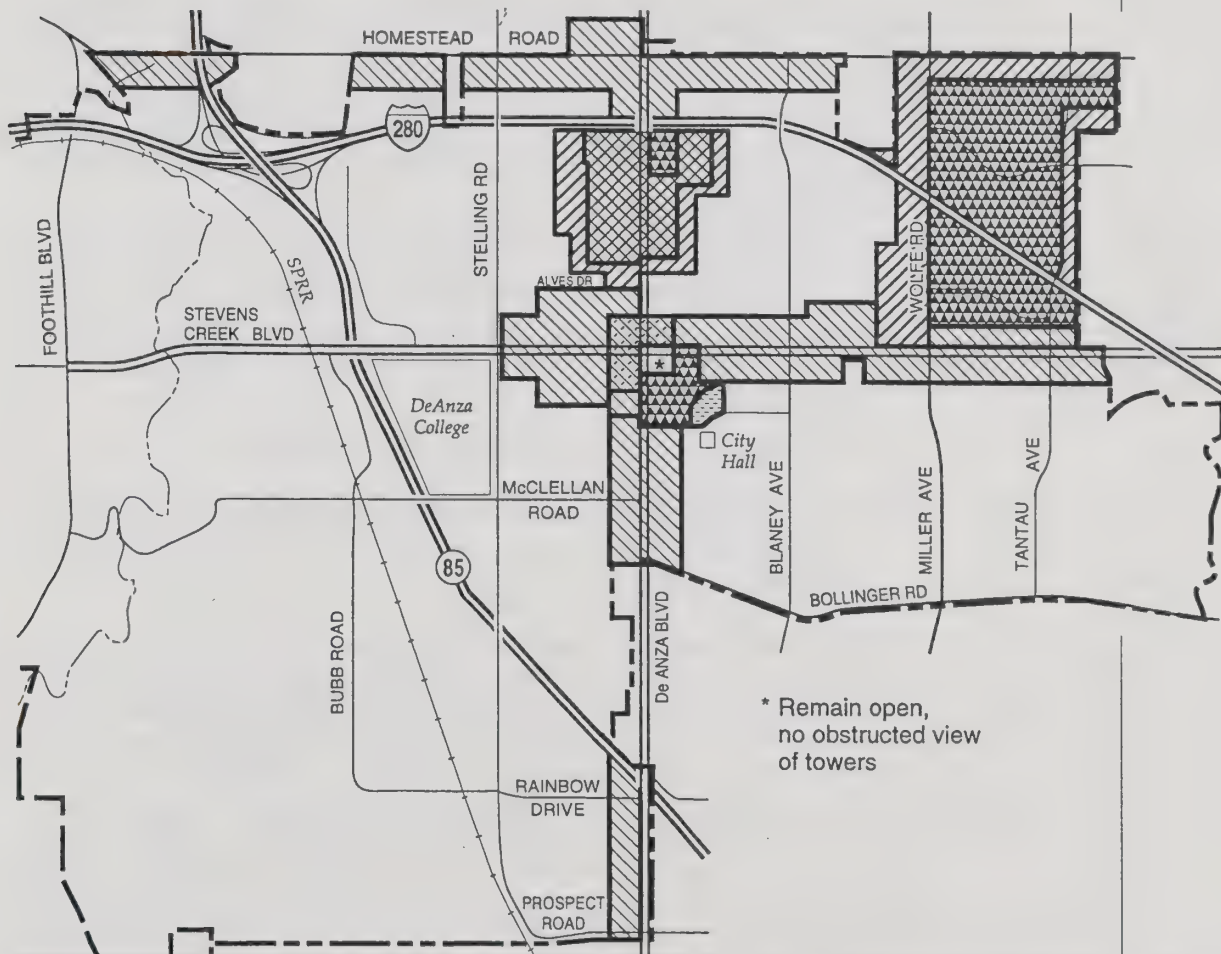
1. **Multiple-Story Buildings and Residential Districts.** Allow construction of multiple-story buildings in Vallco Park, Town Center, Stevens Creek Boulevard and North De Anza Boulevard if it is found that nearby residential districts will not suffer from privacy intrusion or be overwhelmed by the scale of a building or group of buildings.
2. **Maximum Building Heights and Setback Ratios.** The maximum height and setback ratios for new buildings in various planning areas are specified in Figure 2-D.

Portions of planning areas abutting residential areas are subject to a 45-foot maximum height limit in addition to other measures to mitigate visual intrusion. The 45-foot height area, as well as other areas, are graphically described in the building heights map. In the Town Center, the maximum existing building height is defined by the City Center twin office towers. In the Vallco Park area, the maximum committed building height is defined by the Vallco Fashion Mall expansion (file no. 9-U-90), which is subject to a development agreement. The Tandem Jackpot project (File No. 13-U-88), approved at the northwest corner of Stevens Creek Boulevard and Tantau Avenue, is specifically exempted from the above new height limitations and would define the maximum existing building height in the Vallco Park area if built. This height exception applies to the current use permit and any permit extension granted by the City. At the northeast corner only, allow a conversion of retail to office/commercial space, provided that there is a substantial retail presence on that site. The maximum height of landmark building shall be 75 ft. with substantial easement for dedication of open space for public gatherings consistent with the Stevens Creek Plan, provided other elements of the General Plan, including traffic, are satisfied. The Sandhill Properties Hotel, Use Permit 15-U-96, approved at the southwest corner of Wolfe Road and Pruneridge Avenue, is specifically exempted from the height limitations. The hotel (File 5-U-00) and apartment (File 6-U-00) are specifically exempted from the height limitations, to allow heights up to 108 feet. This height exception applies to the current use permit and any permit extension granted by the City.

Landmark buildings are buildings of prominent community stature that incorporate uses, activities and spaces encouraging public gatherings and uses. To qualify as landmark buildings, proposed projects should be of very high quality architecture, building materials and finishes and conform to at least three of the following criteria:

- a) Location on a major street frontage.
- b) Inclusion of cultural facilities such as art galleries, museums and performing arts centers.

- c) Inclusion of ground level, outdoor public space of adequate size to support a public gathering space. The space should provide pedestrian amenities including landscaping, public art and other public facilities.
- d) Inclusion of uses that promote social gatherings and interaction, such as restaurants or entertainment activities.



Setback Ratios

Maintain the primary building bulk below a 1:1 slope line drawn from the arterial street curb line or lines *except* for the Vallco area.

For the Vallco area:

For buildings up to 60 feet in height, maintain the primary building bulk below a 1.5:1 slope line drawn from the Stevens Creek Blvd., Homestead Road and Tantau Avenue curb lines and below 1:1 slope line drawn from Wolfe Road curb line.

For buildings over 60 feet in height, maintain the primary building bulk below a 2:1 slope line (i.e., 2 feet of setback for every 1 foot of building height) drawn from the Stevens Creek Blvd., Homestead Road and Tantau Avenue curb lines and below a 1.5:1 slope line drawn from Wolfe Road curb line.

Heights Legend

	30 Feet
	30-45 Feet
	30-45 Feet Typical / 60 Feet Landmark
	45 Feet
	60 Feet
	60 Feet Typical / 75 Feet Landmark

Residential setback to be determined

Figure 2-D. Maximum Building Heights and Setback Ratios.

Rooftop mechanical equipment and utility structures may exceed stipulated height limitations if they are enclosed, centrally located on the roof and not visible from the adjacent streets.

The zoning code shall be reviewed and revised as necessary to implement these General Plan height policies.

3. **Vallco Park Focal Point.** To better integrate the Vallco Park Fashion Mall with the surrounding community and emphasize its role as a focal point, encourage any new retail development at Vallco Park, south of Highway 280, to provide outdoor shopping experiences in continuity with the present indoor shopping. New office development should also provide outdoor and pedestrian-oriented designs. To achieve this, development review should consider:
 - a. Active retail uses facing the street or outdoor pedestrian corridor with appropriate connections to the interior mall shopping activity.
 - b. Parking designed and sited to avoid creating pedestrian barriers and shopping islands.
 - c. Buildings sited to develop a strong street presence.
 - d. Projects including pedestrian amenities: landscaping, furniture, fountains, canopies, special paving materials and other features to enhance pedestrian activity.
4. **Town Center/Crossroads Focal Point.** Establish building entries and restaurant, retail and similar activity-oriented uses along ground floor frontages facing Stevens Creek Blvd., De Anza Blvd. and the Town Center. Construct a Town Center Landmark Design Element at the Stevens Creek Blvd./De Anza Blvd. intersection. A landmark may include open space, landscaping and other design elements at the corners. The city may reserve a permanent landscape easement as a condition of development at all four corners of the intersection to allow the construction of a future landmark and flexibility in design, excluding the southeast corner of the Stevens Creek/De Anza Boulevard intersection. The Four Seasons park will be accessible to the public via a license agreement.



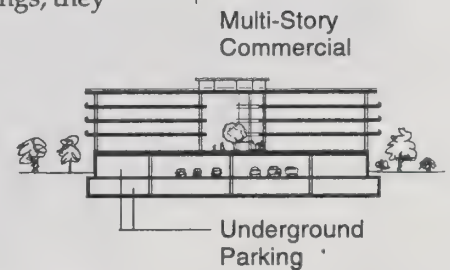
D ENCOURAGE A DEVELOPMENT PATTERN FOR THE COMMUNITY THAT WILL PROMOTE A VARIETY OF SCALE AND FORMALITY IN BUILDINGS AND THAT WILL FACILITATE ACCESS TO ALL PARTS OF THE COMMUNITY BY ALL SEGMENTS OF THE POPULATION.

■ Policy 2-25: On-Site Environments

Emphasize attractive, on-site environments during the development review process by giving careful attention to building scale and mass, landscaping, placement, screening of equipment and loading areas and related design considerations.

Strategies

1. **Low-Profile Building Heights.** Ensure that building height reflects Cupertino's low-profile design. Consider buildings taller than two stories in locations that are already urban in character or where otherwise specified.
2. **Monotonous and Monolithic Building Appearance.** Through the City's development review process, encourage sensitive design and site planning that avoids monotonous and monolithic buildings. Design and site planning techniques should include articulation and segmentation of the wall and roof planes, pedestrian-scaled building details, visual openings in the wall plane, smaller building footprints, appropriate building and story setbacks and hierarchical landscaping. If the project has many buildings, they should be grouped to create a feeling of spatial unity.
3. **Parking Placement in New Development.** Encourage developers of commercial, office or industrial sites to look into underground parking or consider placing the building above ground-level parking. Review the design of the below-level parking facilities with the City's police agency to minimize crime potential.
4. **Development Review.** In the City's development review process for major projects, require:
 - computer simulated modeling and photo montage of development proposals
 - architectural review by a City staff or consulting architect. A separate architectural review fee should be charged in addition to standard application fees.
5. **Design Guidelines.** Consider developing thematic architectural design guidelines for different areas in the City.



Generally, abrupt changes in building scale should be avoided. A more gradual transition between buildings of one and two stories and low-rise to mid-rise buildings should be achieved by using three-story and four-story buildings at the edge of the project site.

Provide Transition Between Low Buildings and Mid- and High-Rise Structures



Policy 2-26: Public Open Space Development

Encourage development of residential and public open spaces on lands next to major streets to give a balanced variety of land uses, to increase the housing supply and to break current or potential strip development patterns.

SEE POLICY 5-53

Streetscape

Cupertino's streets heavily influence the City's form and the lifestyles of people who live here. Streets can form neighborhood boundaries and add to the sense of community, but they can also compartmentalize and cut off other areas, causing isolation.

Streets become barriers when they are difficult to cross, thus closing off one neighborhood from another. According to studies, speed, even more than the volume of traffic, greatly influences the activities of people who live nearby. Families with young children want to live somewhere else and people who do live near major streets often decide not to have pets because of traffic dangers.



Because of past decisions and the growth of neighboring cities, Cupertino is cross-divided by a grid of major streets with a high-volume carrying capacity to accommodate through commute traffic. The roadway network is probably the most serious threat to the integrity of Cupertino's community character. Traffic danger, odor, noise and the stacking effect of cars at peak times disrupt activities along the streets. Taken to extremes, the major streets could turn Cupertino into a random collection of individual neighborhoods.

A city designed around automobiles works and looks entirely differently from one built for a variety of transportation. People who live in a city designed for cars don't have much opportunity to use other forms of transportation.

Street improvement design is guided by these standards:

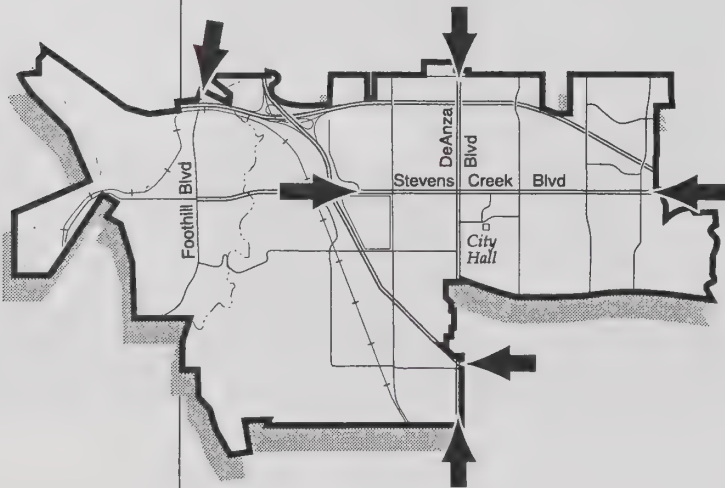
- a. Ensure that De Anza Boulevard leading to the center of Cupertino remains park-like through 50-foot landscaped parkways, landscaped medians and abundant on-site landscaping.
- b. Limit entrances and exits to properties to avoid disrupting landscaped continuity and traffic flow.
- c. Maximize tree landscaping along arterial street frontages between buildings and/or parking lots and their adjacent street curb lines consistent with land use visibility requirements.

SEE POLICY 2-31

SEE POLICY 2-28

- d. Provide substantial landscaping at all arterial intersection corners.
- e. Provide on-site coordination of driveways and parking aisles to allow access to secondary streets and traffic signals and to keep disruption of traffic flow to a minimum.
- f. Hide off-street parking from public view as much as possible. Determine the required number of off-street parking spaces for multiple-story projects in the Core Area along with specific development proposals.

People notice when they are in a different city by looking at its streets. Cupertino can distinguish itself from the outlying fringes of Sunnyvale and San Jose by avoiding the strip development—an unbroken continuity of commercial and office buildings with intense daytime activity where the automobile is king.



Strategies

SEE POLICY 4-4

1. **Shared Driveway Access.** Encourage property owners to use shared driveway access and interconnected roads on specific properties where feasible. Require driveway access closures, consolidations or both when a non-residential site is remodeled.
2. **Direct Access From Secondary Streets.** Encourage owners of property with frontages on major and secondary streets to provide direct access to driveways from the secondary street.
3. **Temporary Curb Cuts On Non-Residential Sites.** Permit temporary curb cuts on a non-residential site subject to the City finding that the opening is necessary for public safety. These temporary openings may be closed and access to the driveway made available from other driveways when surrounding properties are developed or redeveloped.

Gateways

Gateways are important in creating a memorable impression of a city, often using formal elements—arches, fountains, banners, signage, special lighting and/or public art or landscaping. Gateways may also be dramatic without constructed devices and are not always found at the city limits. For example, the street overcrossing at Lawrence Expressway and Stevens Creek Boulevard is a definite gateway to the east edge of Cupertino, even though the overcrossing is not in Cupertino.

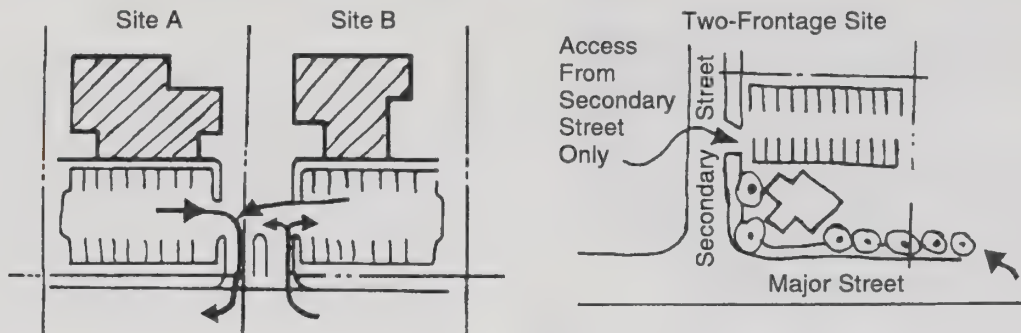
Policy 2-27: Community Gateways

Review properties next to community entry points when they are developed or redeveloped to reflect the gateway concept.

Large numbers of curb cuts can impede traffic flow on busy streets as drivers enter travel lanes indiscriminately. Landscaping themes along the street frontage maintain a stronger visual continuity with fewer curb cuts.

Policy 2-28: Curb Cuts

Minimize the number of driveway openings, or curb cuts, in each development.



Policy 2-29: Street Improvement Planning

Plan street improvements such as curb cuts, sidewalks, bus stop turnouts, bus shelters, light poles, benches and trash containers as an integral part of a project to ensure safe movement of people and vehicles with the least possible disruption to the streetscape.

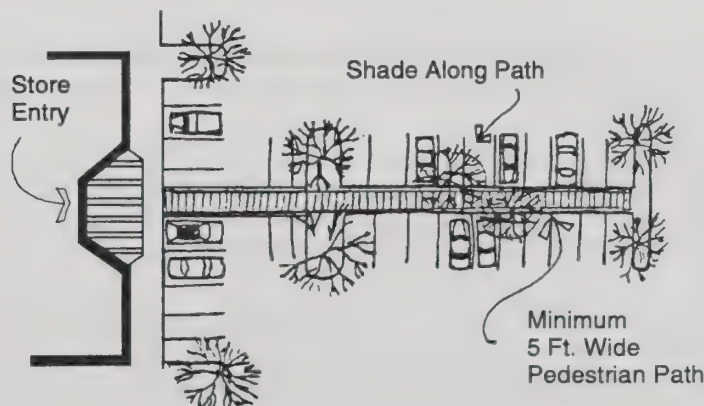
Strategies

1. **Sidewalk Access to Parking or Buildings.** Examine sidewalk access to parking areas or building frontages at the time individual sites develop to regulate entry to the site at a central point. Sidewalks should generally be no wider than five feet, except in the Heart of the City where increased pedestrian activity necessitates wider walkways.
2. **Bus Stop Turnouts in Street Frontages.** Require bus stop turnouts, or partial turnouts, within the street frontage of a new or redeveloping site. This could contain benches and trash containers for the comfort of people waiting for a bus. Follow Santa Clara County Transit District specifications for improving bus stops.

SEE POLICY 2-2

Policy 2-30: Parking Area Layout

Include clearly defined spaces for pedestrians in parking lots so that foot traffic is separated from the hazards of car traffic and people are directed from their cars to building entries.





Urban Scenic Corridors

Hoping to lessen the visual disruption of Cupertino's image caused by the City's two major boulevards, the City Council requires an extensive landscape setback next to De Anza Boulevard from Stevens Creek Boulevard to Route 280. This will lead the observer to or from the pedestrian-scale shopping environment of Town Center through an intensely planted parkway that motorists driving cars can enjoy.

Policy 2-31: Boulevard Landscaping Setback

Require properties fronting North De Anza Boulevard to provide a landscaped front setback of 50 feet from the face of the curb, excluding parking lots.

Strategies

1. **Reduction of Landscaping Width.** Consider reducing the 50-foot width according to the size of the project frontage and the scale and the type of the proposed development.
2. **Views of Plantings From Passing Cars.** Select and arrange plantings so that they can be viewed by people driving cars.

Policy 2-32: Roadway Design to Offset Barriers

Encourage using design techniques and development controls to offset the divisive barrier effects of major roadways.

Strategies

1. **Small Buildings Near Residences.** Build smaller buildings on land next to streets that lead to residential neighborhoods.
2. **Crosswalk Marking and "Chokers."** Mark crosswalks with pavement treatment scaled to the speed of the street and use "chokers" to narrow the street crossing.
3. **Parkway Setback and Town Center.** Do not allow the parkway setback to extend into the Crossroads intersection commercial district or into the future commercial development in Town Center.

Sign Control

In order to keep its streets attractive, Cupertino rejects the modern merchandising technique of directing business signs at drivers frequently and from as far away as possible. The City is also de-emphasizing commercial strip development. So, business signs visible from the streets are limited to those necessary to identify a business site, rather than to advertise from afar. This sign control also connects the Vallco-North De Anza Boulevard-Town Center areas along the City's major streets by keeping sign disruption to a minimum.

SEE SIGN ORDINANCE

Rural Scenic Highways

Most of the significant rural roads are outside City jurisdiction and are covered by the County Scenic Highway Preservation Policy. Montebello and Stevens Canyon Roads in the western foothills and the upper segment of Regnart Road at the south edge of the City are among these streets. The scenic integrity of these rural roads can be protected by significant frontage setbacks, reduced right-of-way and reduced carrying capacity, while still permitting adequate public access to their unique beauties.



Neighborhood Entries

Well-defined entrances are essential to neighborhoods. They aid public safety because drivers are likely to slow down and pay closer attention when they know they are entering a residential area. A gateway that is appropriately styled and in keeping with neighborhood scale can help residents feel a part of the neighborhood.

Policy 2-33: Neighborhood Gateways

Define neighborhood entries through architecture, landscaping, or land forms appropriate to the formal or rural character of the neighborhood. Vehicular electronic security gates should be discouraged, because they isolate developments. However, if electronic security gates are proposed, a fence exception application is required, and approval shall be based on meeting at least one of the following criteria, and the fence exception findings:

- Is a mixed-use development, where the parking for different uses needs to be separate to assure availability of parking for each use.
- Includes a below-grade parking structure where the gates are required to secure the below-grade parking.
- Requires gates to obtain federal or state funding.
- The development is secluded.
- The electronic gates are needed for demonstrated security reasons.

Strategy

Standing Housing and New Development. Identify standing housing groups while the area is being redeveloped so that they can be enhanced by modifying the street pattern, the street landscaping or by other techniques.

Traffic Intrusion

Cars intrude into local neighborhood streets at peak traffic hours from Cupertino's many major boulevards and streets. There are several ways to minimize this intrusion, including building streets so that they connect circuitously, rather than directly, to major streets; using street "diverters" that direct or eliminate turns; and allowing variations in pavement width to discourage speeding and emphasize crosswalks.

■ **Policy 2-34: Neighborhood Traffic Pattern Investigation**

Investigate neighborhood traffic patterns comprehensively and find solutions to protect neighborhood streets from through-traffic spillover.

SEE POLICY 4-6

Environmental Management

E PROTECT THE ENVIRONMENT AND THE PERSONAL SAFETY OF THE CITY'S RESIDENTS.



It is necessary to respect irreplaceable natural assets which define community character. Sometimes, careful design controls can cause buildings to complement and enhance the natural terrain. For example, the landmark Maryknoll Seminary is situated on a prominent ridgeline and accents the wooded setting. In other cases, such as in the Stevens Creek Flood Plain, the land's natural plants should be left undisturbed as a break in the urban pattern.

Preserving the Hillsides

Cupertino's hillsides are an irreplaceable resource shared by the entire Santa Clara Valley. Building a low-intensity residential development in the foothills would give the owners of these houses an interest in preserving the natural environment. This kind of development would be limited to high-income households; this is in compliance with the broad goal of providing housing opportunities to all economic segments of the community. Cupertino is trading off housing opportunity for low-income and moderate-income households for the preservation of a natural resource that benefits the region.

■ **Policy 2-35: Foothill Development**

Apply a slope-density formula to very low-intensity residential development in the hillsides. Density shall be calculated based on the foothill modified, foothill modified 1/2 acre, and the 5-20 acre slope density formulae.

SEE "SLOPE DENSITY" DOCUMENT



Actual lot sizes and development areas will be determined through zoning ordinances, clustering and identification of significant natural features.

Policy 2-36: Special Hillside Protection Area

The 5-20 acre slope density designation shall provide special hillside protection to form a continuous open space/very low density buffer west of the existing urban/suburban development pattern. The area shall include the Kaiser property, the Diocese property, Regnart Canyon area, Inspiration Heights area and other similar properties.

Policy 2-37: Previously Designated Very Low Density: Semi-Rural 5-Acre

Properties previously designated Very Low-Density Residential: Semi-Rural 5-Acre Slope Density Formula as described in the amendment to the 1976 General Plan concerning the land use element for the hillside area may be subdivided utilizing that formula. Properties previously subdivided in conformance with the Very Low-Density Residential: Semi-Rural 5-Acre Slope Density Formula have no further subdivision potential for residential purposes.

Policy 2-38: Rezoning in Inspiration Heights

Rezone the shaded area shown in Figure 2-E from R1-10 to RHS.

Policy 2-39: Existing legal lots in foothill modified and foothill modified 1/2 acre slope density designations.

Existing, vacant legal lots are not considered buildable in the foothill modified and foothill modified 1/2 acre slope density designations if they are substandard in lot size. They are also considered unbuildable if development is proposed on slopes greater than 30%, or on any other areas where studies have determined the presence of health and safety problems; this also applies to lots in any R-1 zoning district in the City. An exception pro-

PREVIOUS POLICY 2-38 REGARDING HILLSIDE PARCEL CONSOLIDATION WAS DELETED BY COUNCIL RESO. 9051. CURRENT POLICY ADOPTED ON MARCH 7, 1994, BY COUNCIL RESO. NO. 9050.

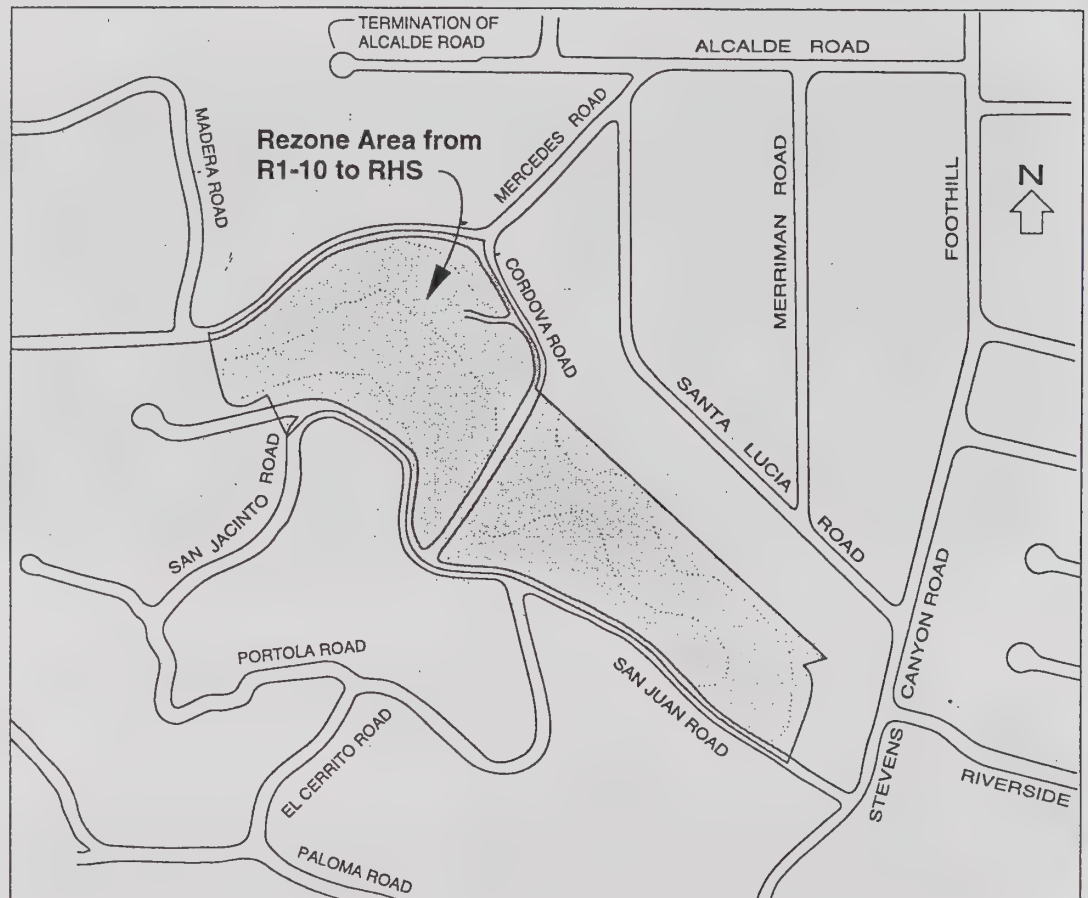


Figure 2-E. Area to be Rezoned in Inspiration Heights.

cess will be created for an applicant to seek discretionary approval for an unbuildable parcel.

Over 200 acres of vacant land exist on the Diocese property in the western area of Cupertino. It is partially bordered by County park and Midpeninsula Open Space District lands, and contains such natural features as a riparian corridor, steep, wooded slopes and visually sensitive open lands. Most of the land is subject to Williamson Act contract. While park purchase of the property is a top priority, should future development be proposed, the following policy shall apply.

Policy 2-40: Diocese Property Protection

Apply all hillside protection policies to the Diocese Property, and specifically protect the prominent knoll on the northeast side of the property and the steep, wooded southwest corner of the property.

Policy 2-41 Urban Service Area Boundary/Long Term Growth Boundary

The current urban service area boundary is coterminous with the long term growth boundary. The intent of this policy is to limit future development to lands within the existing urban service area. The current urban service area shall not be expanded, except for minor revisions in the boundary be-

SEE MUNICIPAL
CODE, TITLE 18

tween Cupertino and adjacent cities, and involving only urbanized, valley floor locations. The long term growth boundary provides services within the boundary for the next 20-30 years.

Policy 2-42: Clustering Development in Major Subdivisions

Lots in major subdivisions in the 5-20 acre slope density designation shall be clustered, reserving 90% of the land in private open space to protect the unique characteristics of the hillsides from adverse environmental impacts. The project shall keep the open space area contiguous as much as possible.

Strategy

Change the Municipal Code to include this requirement. Require that significant natural features, such as vegetation, slopes over 30%, creeks and water courses, faults, landslides and prominent ridgelines be shown so that the area for clustered development can be determined. Require an open space easement or an open space zoning district on the 90% undeveloped area.

Policy 2-43: Private Open Space Zoning

Establish a private open space zoning district which would allow an owner to designate portions of his property for open space with provisions for trail easements, maintenance standards and other items consistent with preserving the property in its natural state while retaining it in private ownership.

SEE MUNICIPAL
CODE, CHAPTER
19.24

Policy 2-44: Clustering Development in Minor Subdivisions

Encourage clustering of development for minor subdivisions in the 5-20 acre slope density designation. Encourage reserving and dedicating 90% of the land in private open space to protect the unique characteristics of the hillsides from adverse environmental impacts. The project shall keep the open space contiguous as much as possible.

Strategy

Change the Municipal Code to include these guidelines.

Policy 2-45: Hillside Building Standards

Establish stricter building and development standards for the hillside area which, among other things, would provide that views of the ridgelines remain unobstructed and that designs, colors and materials for homes and other structures blend with the natural hillside environment.

SEE MUNICIPAL
CODE, CHAPTER
19.40

Policy 2-46: Ridgeline Visibility

No structures shall be located on ridgelines if visible from new and established valley floor vantage points unless it is determined that significantly greater environmental impacts would occur if structures are located elsewhere.

Strategy

Amend the Municipal Code to state that structures shall not disrupt the natural silhouette of ridgelines as viewed from new and established vantage points on the valley floor. Consider the addition of new vantage points such as Foothill Boulevard, McClellan Road, Rainbow Drive, Bubb Road and Regnart Road.

 **Policy 2-47: Location of Structures**

Locate proposed structures to minimize the impacts on adjacent hillside properties and public open space.

 **Policy 2-48: Avoidance of Geologic Hazards**

Identify geological hazards on sites proposed for development and avoid or limit development in those areas.

SEE POLICY 6-1

Strategy

Amend the Municipal Code to reflect these policies.

 **Policy 2-49: Reducing Visible Mass**

Effective visible mass shall be reduced through such means as stepping structures down the hillside, following the natural contours, and limiting the height and mass of the wall plan facing the valley floor.

Strategy

Incorporate color, materials and height requirements into the Municipal Code.

 **Policy 2-50: Outdoor Lighting**

Outdoor lighting should be low intensity and shielded to minimize illumination off-site.

 **Policy 2-51: Building Heights**

Provide development standards which limit the height and visual impact of structures.

Strategy

Amend the Municipal Code to further limit the height requirements, including overall height and the perceived height of multiple levels from the downhill elevation perspective.

Policy 2-52: Steep Slopes

No structures or improvements shall occur on slopes greater than 30% unless an exception is granted.

SEE POLICY 2-39

Strategy

Amend the Municipal code to include this requirement.

There will be some scarring from hillside development as roads, housing sites and public and private subdivision improvements are graded. So, improvement standards must balance the need to furnish adequate utility and emergency services against the need to protect the hillside, vegetation and animals. Roads should be narrowed to avoid harming trees and streambeds. Grading should be kept to a minimum by prohibiting mass grading for building sites and by allowing narrow driveways, instead of public streets, to serve more than one lot.

Policy 2-53: Rural Improvement Standards in the Foothills

Require rural improvement standards in the residential hillside zoning ordinance and the hillside subdivision regulations to preserve the rural character of the hillside.

SEE MUNICIPAL
CODE, CHAPTER
18-1.13

Strategies

1. **Mass Grading in New Construction.** Follow natural land contour and avoid mass grading in new construction, especially in flood hazard or hillside areas. Grading large, flat yard areas shall be avoided.
2. **Retaining Significant Trees.** Retain significant specimen trees, especially when they grow in groves or clusters, and integrate them into the developed site.

SEE POLICIES 5-13
THROUGH 5-16

The Montebello foothills at the south and west boundaries of the valley floor are a scenic backdrop to the City, adding to its sense of scale and variety of color. It's impossible to guarantee an unobstructed view of the hills from any vantage point, but people should be able to see the foothills from public gathering places.

Policy 2-54: Views for Public Facilities

Design and lay out public facilities, particularly public open spaces, so they include views of the foothills or other nearby natural features, and plan hillside developments to minimize visual and other impacts on adjacent public open space.

Strategy

Development Near Public Open Space. Remove private driveways and building sites as far as possible from property boundaries located next to public open space preserves and parks to enhance the natural open space character and protect plants and animals.

When highly sensitive natural areas such as those subject to floods, brush fires, earthquakes and landslides become part of a city, human life must be protected.

Policy 2-55: Hillside Development Proposal Analysis

Subject proposals for hillside development to prior investigation by professional consultants so that environmental dangers can be noted and solutions suggested to lessen potential hazards.

Policy 2-56: Land Disturbance During Development

Be sure that natural land forms and significant plants and trees are disturbed as little as possible during development. All cut and fill shall be rounded to natural contours and planted with natural landscaping.

Strategy

Amend the Municipal Code to include the two new requirements. Specify a maximum quantity of allowed cut and fill to help define an acceptable grading quantity.

Most of the hillsides in Cupertino's planning area are unincorporated and undeveloped, so County policies dictate their final land use. County policies provide for low density residential, agricultural, park, open space and wildlife uses, as well as mineral resource extraction. Clustering and dedication of open space are required for residential development. Most policies are compatible with Cupertino's, except for those relating to expansion of mineral resource areas, which conflict with the City's hillside protection and compatible land use policies.

County development, particularly if located near Cupertino's urban fringe area, should consider Cupertino's General Plan. Visual impacts, road access, traffic impacts and other service demands should be assessed in consultation with Cupertino's plans and personnel.

Policy 2-57: Santa Clara County General Plan

Hillsides policies found in the Santa Clara County General Plan in effect in 1992 are included in the Cupertino General Plan by reference and are applicable to the unincorporated hillside area. These policies are incorporated because they are consistent with hillside protection goals. If changes are proposed in the County plan which are inconsistent with the City's hillside protection goals, then the City should protest those changes as well as not incorporate them into the City's General Plan.

Policy 2-58: County Development

County development, particularly if located near Cupertino's urban fringe area, should consider Cupertino's General Plan.

Joint Hillside Planning

The following policy is the approach selected to achieve long term hillside protection.

SEE POLICIES 5-15,
5-16, POLICY 6-22

Policy 2-59: Long Term Growth Boundary

Modification to the long term growth boundary is allowed only in conjunction with a comprehensive review of the city's General Plan. Revisions to the long term growth boundary will be referred to the County of Santa Clara for review and comment.

Flood Plain

Stevens Creek and its streamside are among the natural elements that have the most influence on Cupertino's character. The creek strongly defines the boundary between the urban and rural parts of the City, extends a note of unspoiled beauty into the heart of the developed valley floor and gives many residents and visitors a space for play, relaxation or study of the creek's plant and animal life. At times, however, floods can pose a risk to the City.

Land uses in the flood plain should allow the public access to the creek, but should prohibit materials that would restrict the free flow of creek waters or significantly disturb the streamside environment.

Policy 2-60: Existing Uses in the Flood Plain

Allow commercial and recreational uses which are now exclusively within the flood plain to remain in their present use or to be used for agriculture.

SEE POLICY 6-20
AND MUNICIPAL
CODE CHAPTER 16.52

Policy 2-61: Non-Recreational Property to Residential

Designate non-recreational properties to become residential with up to five units allowed under these conditions:

SEE POLICY 5-28,
POLICY 5-40

- a. Forbid structures designed for forced human habitation, such as dwelling units, in the natural flood plain. The natural flood plain is defined by the General Plan based on data from the Santa Clara Valley Water District. Unfenced volleyball courts, picnic tables and similar recreational uses may be constructed within the natural flood plain.
- b. Base the maximum number of dwelling units allowed on each property or group of properties on the numerical designation range on the General Plan Map. Land in the flood plain can be credited in an amount not to exceed one dwelling unit per gross acre to determine the number of dwelling units on each property or group of properties consolidated into one development plan. If part of the parcel is outside the flood plain, the maximum density will be six dwelling units for each gross acre. This policy makes it impossible for a relatively small parcel to get a high density status as a result of one dwelling unit per acre density credit from a relatively large area within the flood plain. The total number of units allowed will be based on the ability of the applicant and designer to integrate the development into the natural environment of Stevens Creek and the adjacent residential neighborhoods.
- c. Require residential development plans to incorporate the Stevens Creek trail described in the public parks section of the General Plan.

Policy 2-62: Land In Natural Flood Plain

Allow public and quasi-public land in the natural flood plain after review of a specific zoning or use permit application.

Energy Awareness

Site and building design can save energy by using the benefits of the seasonal climate and controlling its disadvantages. This section discusses a few of the many different ways to make homes more comfortable and reduce energy needed for heat and cooling.

SUN CONTROL

California requires cities to consider solar access when reviewing subdivision design. To increase the daily number of hours of sunlight, builders are encouraged to orient private outdoor spaces to the south, east or west sides of a site, preferably with two unobstructed views. Private outdoor spaces also need to be sheltered from the sun. Trellises, awnings, landscaping and the height and position of neighboring buildings should be studied to protect against excessive shadow on yards, assuring equitable access to sunlight's benefits.

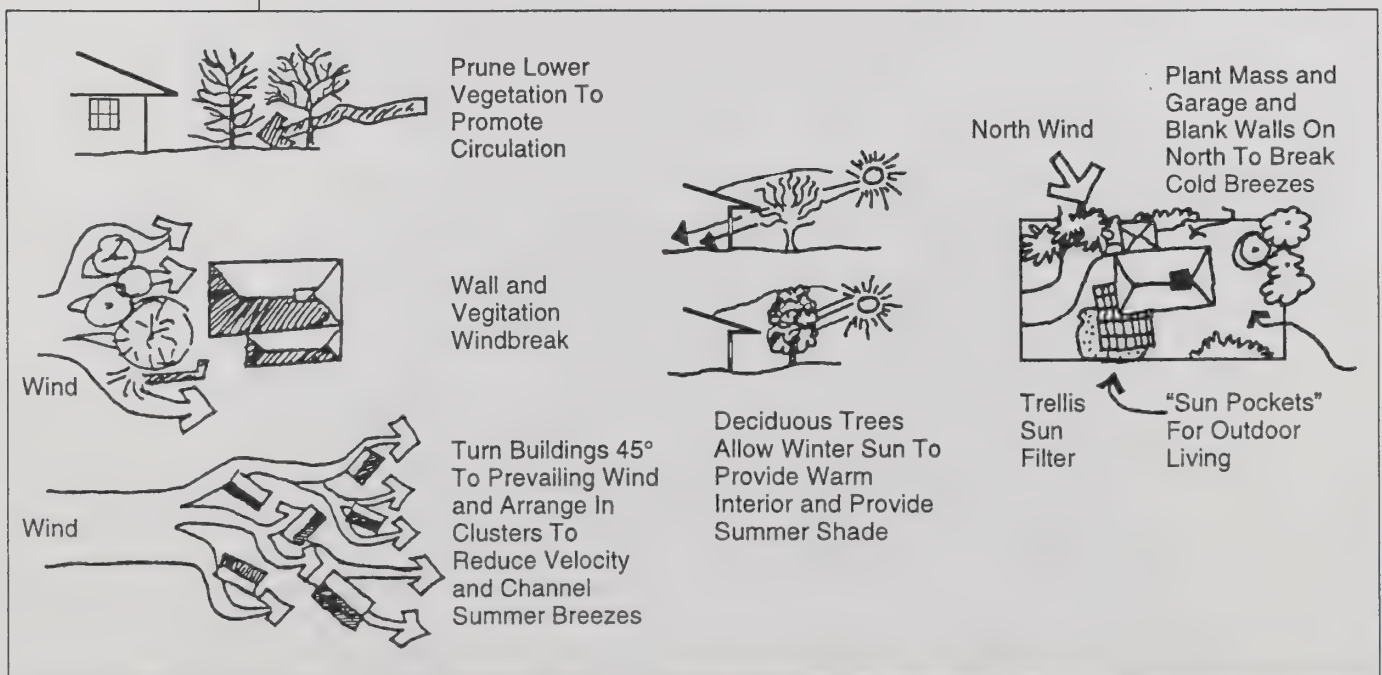
Policy 2-63: Solar Access and Protection

Ensure that all homes have an acceptable balance of access to the sun and protection from it, as well as control of prevailing winds.

WIND CONTROL

Cupertino's prevailing winds blow from the northwest across San Francisco Bay. Winds reach their peak in the afternoon; the City's low buildings and relatively flat ground

SEE POLICY 3-57,
POLICY 3-59



do not slow them down. The breezes give relief from warm temperatures, but high winds discourage the use of outdoor areas. So, careful site design can break up wind patterns and reduce their speed to produce gentler, more refreshing breezes.

Public Services and Facilities

An important part of Cupertino's quality of life is the high standard of public services and facilities enjoyed by residents and workers in Cupertino. This section discusses schools and the library. Other services and facilities: police, fire protection, utilities and waste disposal are discussed in the Public Health and Safety Element of this Plan.

SCHOOL DISTRICTS

Cupertino is served by excellent public education institutions. Cupertino Union School District, Fremont Union High School District and Foothill-De Anza Community College District provide nationally acclaimed elementary, secondary and post-secondary education, respectively. This group of school districts is one of the primary attractions of Cupertino for home buyers, particularly families with school-age children.

While the City is not directly involved in the provision of education, it does control growth and development which can affect schools by increasing student enrollment beyond the means of schools to service them. It is thus crucial for the City to continue working with its school districts to maintain their current high quality.

Policy 2-64: Planning for Schools

Recognize the financial impact of increased development on the school districts' ability to provide staff and facilities. Work with the districts to assure that the continued high level of school services can be provided prior to granting approval for new development.

Policy 2-65: Busing Access to the Hillsides

If busing continues, encourage district staff to become more involved in hillside roadway design to meet the minimum standards required for busing access.

Policy 2-66 Pedestrian Access

Create pedestrian access between new subdivisions and school sites.

Policy 2-67 Permit Data for Schools

Continue to provide school districts with building permit data, which will enable the Districts to record the type of construction, location and their square footage to plan for future schooling needs.



*Flint Center —
De Anza College*

■ **Policy 2-68: De Anza College**

Allow land uses not traditionally considered part of a college, such as lodging or conference facilities and institutional office and research facilities, to be built at De Anza College. Final determination of the intensity, character and ultimate desirability will be evaluated with regard to the effects on traffic and the consistency with the college's educational nature.

LIBRARY SERVICES

The Cupertino Library is another important public resource, with 37,312 Cupertino residents holding library cards. The library is operated by Santa Clara County Library System, but funded through library-dedicated property taxes and City general fund revenues.

In 1988, the building was remodeled to add an additional 11,546 sq. ft., for a total building area of 37,000 sq. ft. The library is experiencing a significant increase in circulation (119%) since the reopening of the building.

If the use of the library continues to rise, library staff will have to make choices to accommodate demand. Library staff has two options: either purchase more shelving and delete seating or remove items from the collection either by discarding them or placing them in long term storage. If the City of Cupertino requires a higher level of service (building, staff and materials) than available from normal funding sources, then cooperation between the County of Santa Clara and City of Cupertino will be needed to achieve this level.

■ **Policy: 2-69 : Library Service Level**

Recognize that if the community desires a higher level of library service, that this would require cooperation between the County of Santa Clara and City of Cupertino in expanding library services and facilities if deemed necessary.

■ **Policy 2-70: Library Planning**

Integrate and coordinate the library system into all applicable General Plan policies, such as transportation, pedestrian and bike trails.

Policy 2-71: Improving Library Service

Encourage the library to incorporate new technology to improve service levels at the library system.

Encourage the adjustment of library collections and programs to meet the needs of Cupertino residents, businesses and ethnic populations.

Policy 2-72: Library Expansion

Actively seek methods to increase library facilities.

AESTHETIC, CULTURAL AND HISTORIC RESOURCES

Cupertino is a relatively modern city, having incorporated in 1955. This date tends to obscure earlier events that were important in the development of the community.

Before European settlement, Native Americans resided in the area, along streams and creeks and in nearby clusters of oaks. The area was first explored by Spanish soldiers and later settled by numerous European immigrants who recognized the potential of the fertile land and converted it to a thriving agricultural economy.

Today, Cupertino is part of a world-renown high technology center, known as Silicon Valley, and is home to several companies producing leading edge computers and software.

Historic properties show Cupertino's past. These sites remind residents of the colorful people who built and occupied them, creating stronger ties between today's Cupertino residents and yesterday's.





Most of the historically significant properties are in private ownership, so there is no public pressure to remove them or change sites in a way that obscures historic character. Where feasible, private owners and City government can work together to find creative alternatives to the destruction of historic properties.

A successful example of this cooperation is the rehabilitation of the De La Vega stable in the Rancho Deep Cliff residential subdivision. The "Tack House" was refurbished extensively inside but its exterior remains much the same. It is the 61-home community's recreation center and meeting hall.

F PRESERVE HISTORICALLY AND ARCHAEOLOGICALLY SIGNIFICANT STRUCTURES, SITES AND ARTIFACTS TO INSTILL A GREATER SENSE OF HISTORICAL AND CULTURAL AWARENESS AND COMMUNITY IDENTITY.

Policy 2-74: Landmark Rehabilitation

Undertake an active partnership with private owners of landmark structures to rehabilitate the buildings for public or semi-private occupancy and retain their historic character.

Strategies

1. **Restoration of Historic Properties.** Encourage and aid private efforts to restore historic properties by allowing flexible interpretation of zoning ordinance and code standards not essential to public health and safety when they would make the restoration easier and more economical. These could include reduced on-site parking provisions or lesser setback distances.
2. **Historic Property Zoning Category.** Create a historic property zoning category to regulate the unique aspects of historic preservation and to make it easier for private owners to obtain the tax advantages that are offered for preserved property in such zones.

Policy 2-74: Archaeologically Sensitive Areas

For development sites in areas likely to be archaeologically sensitive, such as along stream courses and in oak groves, the City development review process should require a specific investigation to determine if significant archaeological resources may be affected by the project, and should also require appropriate mitigation measures in the project design.

Policy 2-75: Native American Burials

Recognize that Native American burials may be uncovered in unexpected locations and that State law prescribes the appropriate actions to take upon discovery of such burials during construction, including stoppage of work in surrounding area, notification of appropriate authorities and reburial of remains in an appropriate manner.

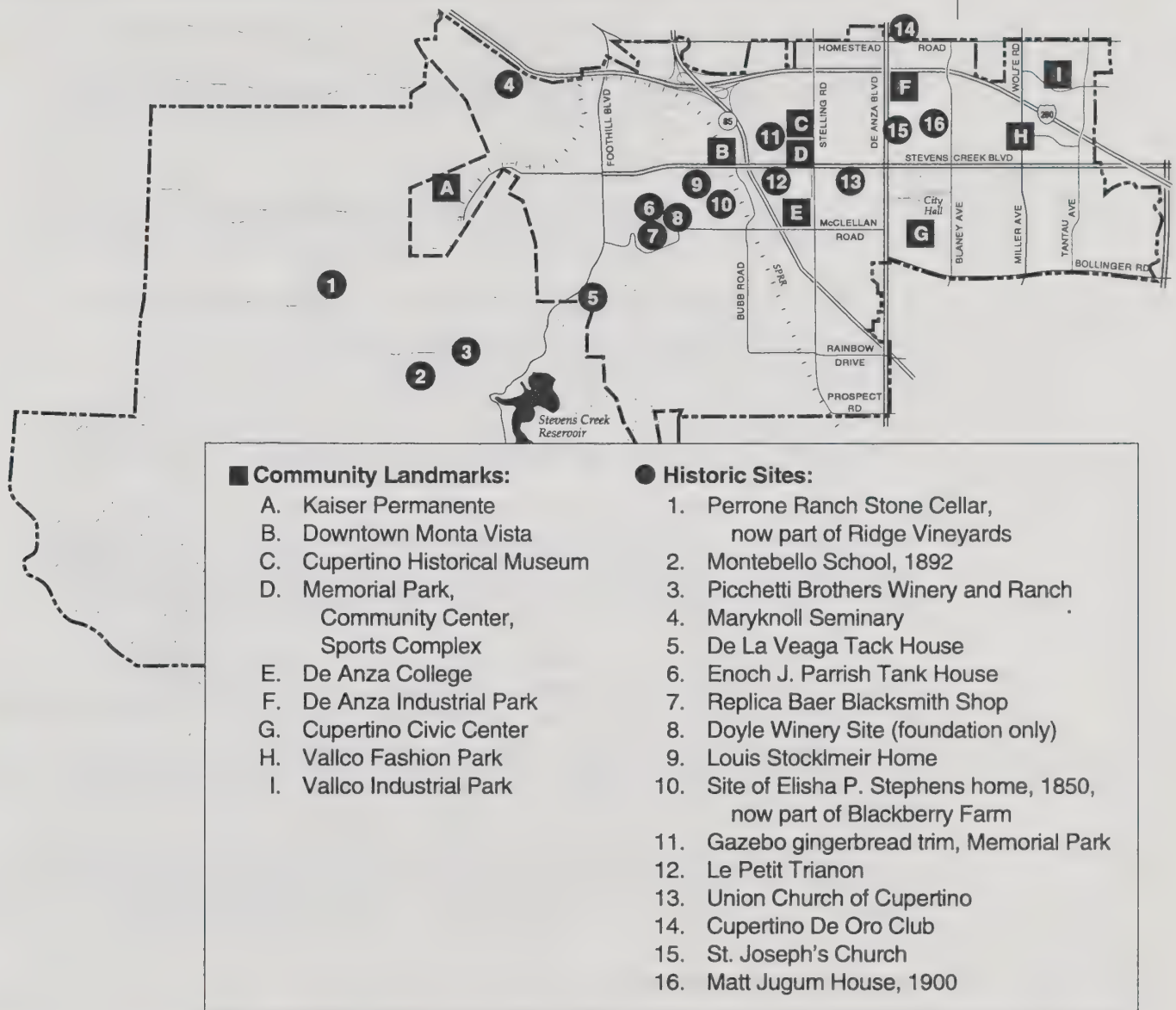


Figure 2-F. Cupertino's Heritage Resources.

Policy 2-76: Heritage Trees

Protect and maintain heritage trees in a healthy state. A heritage tree list shall be established and periodically revised to include trees of importance to the community.

SEE MUNICIPAL
CODE CHAPTER 14.18

G CREATE A CIVIC ENVIRONMENT WHERE THE ARTS FREELY EXPRESS OUR INNOVATIVE SPIRIT, CELEBRATE OUR RICH CULTURAL DIVERSITY AND INSPIRE INDIVIDUAL AND COMMUNITY PARTICIPATION.



Policy 2-77: Public Arts

Stimulate opportunities for the arts through cooperative relations between local business and the City.

Strategies

1. Consider conditioning development approvals with a requirement to install works of public art for public and private non-residential projects of 100,000 square feet or more.
2. Promote publicly visible artworks in public and private development and gateways to the City.
3. Follow Public Art guidelines to maintain an appropriate cultural milieu.
4. Encourage the development of artist workspace.

The Land Use Map And General Policies

The Land Use Map of the General Plan illustrates the policies in this element and in other elements that play a major role in guiding urban development. The map cannot be used alone because it illustrates the text, which should be used along with it.

The General Plan Map illustrates the general form of Cupertino in terms of space allocation and intensity of land use activities. In contrast, the Municipal Zoning Map divides the City into very precisely drawn land use categories. Zoning districts have precisely written standards governing permitted activities and development forms. A series of policy statements accompany the planning text to guide the public and government officials in establishing precise zoning boundaries to pinpoint permitted activities.

California law requires that the zoning map and zoning regulations be consistent with the General Plan Map and text. The zoning map and regulations must be brought into conformity with the General Plan within a reasonable period after it is adopted.

Land Use Categories

Patterns and symbols, defined on the map legend, are used on the General Plan Map to identify land use categories, the road system, major land features and significant public and private facilities.

Here is a description of each land use category:

RESIDENTIAL

Areas suitable for dwellings, divided into five sub-categories based on dwelling unit density and expressed as the number of dwellings permitted on each gross acre. The General Plan does not define whether the dwellings are to be owned or rented by their inhabitants or whether they are to be attached or detached.

Very Low Density: Intensity is based on applying one of three slope-density formulae—Foothill Modified, Foothill Modified 1/2 Acre, or Foothill 5-20 acre. This classification is intended to protect environmentally sensitive areas from extensive development and to protect human life from hazards related to flood, fire and unstable terrain.

Low Density: 1-5 units on each gross acre. This category is intended to promote a suburban lifestyle of detached single-family homes. Planned residential communities can be incorporated into this category if the development form is compatible with adjoining residential development.

SEE MUNICIPAL
CODE CHAPTER 19.28

Medium Low Density: 5-10 units per gross acre. This category accommodates more intensive forms of residential development while still being compatible with the predominant single-family detached residential neighborhood. This development can be successfully incorporated into a single-family environment.

SEE MUNICIPAL
CODE CHAPTERS
19.32 AND 19.44

Medium High Density: 10-20 units per gross acre. This category provides greater opportunity for multiple-family residential developments in a planned environment. This range usually results in traffic volumes and buildings that are not compatible with single-family residential neighborhoods. These developments should be located on the edges of single-family residential communities where utility services and street networks are adequate to serve increased densities.

SEE MUNICIPAL
CODE CHAPTER 19.36

High Density: 20-35 units per gross acre. This promotes a wide range of housing choices in multiple-family dwellings. The intensity requires that the category be used only at locations with adequate utility services or transit or both. The development may result in structures with three or four levels and underground parking. This category offers maximum opportunity for housing choice, especially for people who want a city environment.

COMMERCIAL/RESIDENTIAL

This designation allows primarily commercial uses and secondarily residential uses or a compatible combination of the two. Commercial use means retail sales, businesses, professional offices and service establishments with direct contact with customers. This applies to commercial activities ranging from neighborhood convenience stores to regionally oriented specialty stores. Retail stores that would be a nuisance for adjoining neighborhoods or harmful to the community identity would be regulated by the commercial zoning ordinance and use permit procedure.

SEE MUNICIPAL
CODE CHAPTER 19.56

Residential densities are not specified because of the flexibility needed to develop residential uses in primarily non-residential areas. Smaller commercial parcels in existing residential areas may be redeveloped at densities compatible with the surroundings. Residential development is subject to the numerical caps and other policies described in the development priorities tables.

OFFICE

This designation encompasses all office uses referenced in the City's Administrative and Professional Office Zone including administrative, professional and research and development activities.

SEE MUNICIPAL
CODE CHAPTER 19.76

Prototype research and development is permitted if it is conducted along with the office functions of a business. Prototype R&D is defined as research and development activities that lead to the development of a new product or a new manufacturing and assembly process. Products developed, manufactured or assembled here are not intended to be mass produced for sale at this location.

Guidelines for Prototype Research and Development: The type, use and storage of hazardous material for prototype R&D or assembly is regulated by the Uniform Building Code, the Uniform Fire Code and any new ordinance or other regulation that controls hazardous materials.

The building must not present the appearance that a prototype R&D or assembly process is in place. There will be no exterior storage and receiving facilities will be small. Generally, no more than 25 percent of the total space occupied by the firm will be devoted to this activity.

COMMERCIAL/OFFICE/RESIDENTIAL

This designation applies to the mixed use areas which are predominantly commercial and office uses. Supporting residential uses may be allowed when they are compatible with the primarily non-residential character of the area. Residential densities are not specified because of the flexibility needed to develop residential uses in primarily non-residential areas. Residential development is subject to the numerical caps and other policies described in the development priorities tables.

INDUSTRIAL/RESIDENTIAL

This designation allows primarily industrial uses and secondarily residential uses or a compatible combination of the two. Industrial use refers to manufacturing, assembly and research and development. Administrative offices that support manufacturing and wholesaling are included.

Residential densities are not specified in the non-hillside areas because of the flexibility needed to redevelop existing industrial areas for residential living. Residential development is subject to the numerical caps and other policies described in the development priorities table.

OFFICE/INDUSTRIAL/COMMERCIAL/RESIDENTIAL

This designation applies to areas that are primarily office uses and industrial uses. Commercial uses should be ancillary and supportive of the office and industrial base with the exception of larger parcels which may be used for regionally oriented stores. Residential densities are not specified because of the flexibility needed to develop residential uses in primarily a non-residential area. Residential development is subject to the numerical caps and other policies described in the development priorities table.

QUASI-PUBLIC/INSTITUTIONAL

This designation is applied to privately owned land involving activities such as a private utility, a profit or non-profit facility giving continuous patient care, an educational facility or a religious facility.

PRIVATE OPEN SPACE

This designation is applied to privately owned lands used for low-intensity, open space activity such as hiking, walking or picnicking. Other, more intense, uses deemed compatible with this designation may be approved through the use permit procedure.

SEE MUNICIPAL
CODE CHAPTER 19.64

SEE MUNICIPAL
CODE CHAPTER 19.24

PRIVATE RECREATION

This designation is applied to privately owned land used for outdoor recreation.

SEE MUNICIPAL
CODE CHAPTER 19.72

PARKS

This designation is applied to land owned by the public and used for recreation.

PUBLIC FACILITIES

This designation is applied to land used or planned to be used by a governmental entity for a public purpose.

General Policies

The loose format of the General Plan Map makes it necessary to enact general land use policies to guide City officials and others in formulating private and public land use decisions.

Policy 2-78: Boundaries Between Land Uses

Base boundaries between land use classifications generally upon lot lines of established land use activities, public streets, and constructed or natural physical barriers or a combination of any of these. Show the precise boundary on the zoning map.

Policy 2-79: Residential Density Ranges on the Map

Recognize that residential density ranges on the General Plan Map and its legend show the desired development intensity for a general area. Also recognize that the actual gross dwelling unit density may be slightly different if the properties reflect the general development character of neighboring properties.

SEE POLICY 2-13

Policy 2-80: Public and Quasi-Public Activities and Land

Allow public and quasi-public activities to be located within any land use designation in the General Plan upon zoning review approval to ensure compatibility with the surrounding neighborhood and the street and utility system capacity. Allow residential land uses in areas designated for quasi-public uses with appropriate zoning changes.

Policy 2-81: Closed School Site Use

Designate all public school sites for public use provided that schools that are closed may be used for quasi-public or institutional activities or both, or for housing. The dwelling unit intensity and development pattern shall reflect the character of the surrounding residential districts. The future of unused school sites shall also reflect the park acquisition program in the Environmental Resources Element.

SEE PLANNING
COMM. RESO. 2616
POLICY 5-52

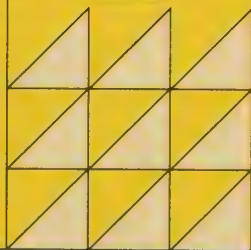
REFER TO DRIVE-UP
FACILITIES DESIGN
POLICY

■ ***Policy 2-82: New Drive-Up Services***

Permit new drive-up service facilities for commercial, industrial or institutional use only when adequate circulation, parking, noise control, architecture features, and landscaping are compatible with the visual character of the surrounding uses and residential areas are adequately buffered. Further evaluate any proposed site for conformance with other goals and policies of the Plan.

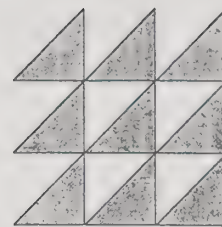
■ ***Policy 2-83: Late-Evening Entertainment Activities***

Discourage late-evening entertainment activities such as cocktail lounges, recreational facilities and theaters in the relatively narrow depth of Stevens Creek Boulevard properties, but encourage them in Town Center, Vallco Park and other large properties that are isolated from residential districts and can provide internal security.



Section 3

Housing



INTRODUCTION

State Housing Element law (State of California Government Code, Article 10.6) identifies the type of information that must be included in a community's Housing Element. Included in these requirements are an analysis of the housing stock and households, estimates of Regional Housing Needs, evaluation of past progress in meeting Housing Element goals and, projected goals, policies and programs. The Housing Element must be periodically reviewed for certification by the State Department of Housing and Community Development. Because much of the information required for State certification is statistical and must be updated every five years, Cupertino has prepared a separate Technical Document that supplements the General Plan. The Technical Document includes the data required for State compliance and is incorporated by reference here as part of the General Plan.

This chapter includes a summary of some of the more significant information found in the Technical Document. Following that summary is a complete listing of the goals, policies and programs for the 2001-2006 time frame of the Housing Element.

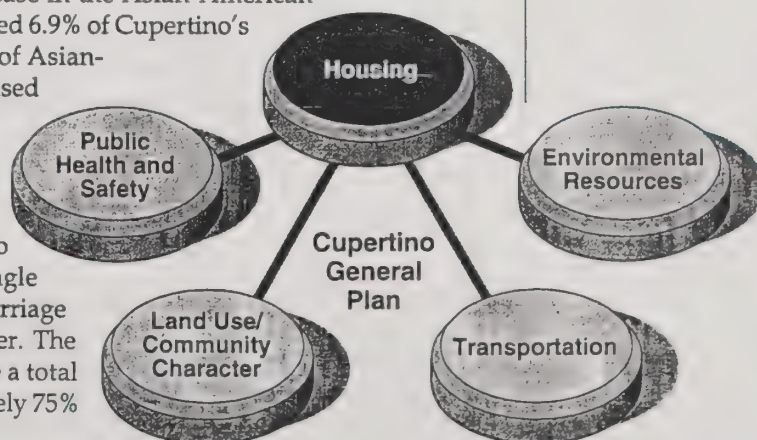
COMMUNITY PROFILE

POPULATION AND HOUSEHOLDS

Since its incorporation in 1955, the City of Cupertino's population has increased significantly. In 1955, the population of the incorporated area was less than 2,500 people. The 2000 U.S. Census data indicates that the population of Cupertino had increased to a total of 50,546 persons. ABAG (Association of Bay Area Governments) estimates that the population in the City and its sphere of influence will increase by 19% between 2000-2020. The population for Cupertino and its sphere of influence in 2020 is estimated to be 66,400 persons.

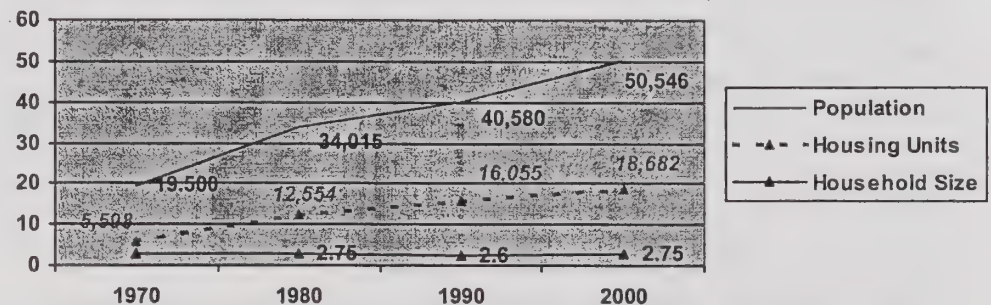
The ethnic composition of Cupertino's population has become more diverse in recent decades. The most significant change has been the increase in the Asian-American population. In 1980, Asian-Americans represented 6.9% of Cupertino's population. However, in 2000, the proportion of Asian-Americans in Cupertino's population had increased to 44% of the total population.

For purposes of evaluating housing supply and demand, it is helpful to translate population figures into household data. The U.S. Bureau of the Census defines a household as all persons who occupy a housing unit, which may include single persons living alone, families related through marriage or blood, and unrelated individuals living together. The 2000 U.S. Census data indicated that there were a total of 18,204 households in Cupertino. Approximately 75%



TRENDS IN
POPULATION,
HOUSING UNITS
AND HOUSEHOLD
SIZE

of those households were classified as "family" households and the remaining 25% were "non-family" households (primarily individuals living alone). It is estimated that 13% of all Cupertino households can be classified as "lower income households. This 13% figure includes 1,547 households who are estimated to be very low-income and 801 low-income households. In 2001, a household of four persons with a maximum income of \$43,650 annually was considered very low-income, or if their income didn't exceed \$69,050 annually, they would be considered low-income. Household size has remained relatively flat in recent decades. In 1980, the average household size in Cupertino was 2.75 persons per household. Between 1980-90, the average household size decreased to 2.60 persons per household. However, by 2000, the average household size reverted back to the 2.75 persons per household figure.



Source: U.S. Census 1970, 1980, 1990, 2000

HOUSING UNITS

Cupertino's housing stock was primarily built in the decades after World War II and reflects its suburban, residential character. There were a total of 18,682 housing units in Cupertino in 2000 and the majority of those units were single-family housing units.

Housing costs are expensive in Cupertino. In January, 2001, the median sales price for a single-family home in Cupertino was in excess of \$1 million dollars. For the same general time period, the average rent for a multi-family rental unit was \$2,353 per month. These costs far exceed the ability of very low and low income households to pay for affordable housing. It is estimated that in 2001 at least 1,651 lower income households were "overpaying" for housing (paying more than 30% of their income for housing costs).

From 1990-2000, a total of 2,074 new units were added to Cupertino's housing stock. This represents a production rate of approximately 200 units per year. The new construction objective from the City's previous Housing Element for the 1990-95 time frame was not achieved. Only 10% of the estimated 2,587 units to be produced were actually developed.

PROJECTED HOUSING NEEDS

1. NEW CONSTRUCTION

A) ADEQUATE SITES FOR ABAG ESTIMATED NEW CONSTRUCTION NEED

ABAG has estimated that the City needs to provide adequate sites to accommodate 2,720 units for the time period of 1999-2006. After adjusting for the housing units already provided between 1999-2001, the revised estimate is that adequate sites are needed for 2,325 units from 2001-2006, or 465 units per year. Based on the fact that the City during the past decade has added an average of 200 units per year to the housing stock, this 5-year goal of 2,325 units will need to be aggressively pursued from 2001-2006.

B) BALANCED COMMUNITY OF JOB AND HOUSING OPPORTUNITIES

One of the most challenging issues facing Cupertino is the goal of achieving a better balance between jobs and housing in the community. In 2001, ABAG estimated that there were 2.4 jobs for every household in Cupertino. This ratio indicates that Cupertino is a "job rich" community and there is a need to achieve a better balance between jobs and housing. In order to achieve this, Cupertino needs to monitor the number of new jobs created in relationship to the number and type of housing units also being developed

2. AFFORDABLE HOUSING

The goal of adequate sites for 2,325 new units for 2001-2006 is further refined by estimating the number of units needed for very low, low and moderate income households. Adequate sites at appropriate densities need to be provided to accommodate housing units affordable to the following household income groups.

HOUSEHOLD INCOME CATEGORY	NUMBER OF UNITS
Very Low-Income	378 Units
Low-Income	188 Units
Moderate- Income	626 Units
Above Moderate- Income	1,133 Units
TOTAL	2,325 UNITS

3. CONSERVATION OF EXISTING HOUSING

The City's existing rental stock provides a source of affordable housing for lower and moderate income households. In 2001, there were 292 rental units with affordability controls in Cupertino. In addition, there were 3 group homes providing housing for a total of 25 persons/ households. One of the most significant needs during the 2001-2006 time period is to conserve the existing rental housing stock. In particular, the City will monitor the potential

conversion of any affordable units to market rate, specifically the 100 unit Sunnyview development (affordability subsidies are scheduled to expire in 2004).

4. SPECIAL HOUSING NEEDS

Some of the households that have special housing needs in Cupertino include homeless, elderly and disabled households. The City needs to continue its relationship with special need providers and to support the provision of additional housing opportunities where feasible.

5. EQUAL ACCESS TO HOUSING

A fundamental right is the ability for all persons to have equal access to housing, regardless of factors such as religion, ethnicity, age or sexual orientation. It is important that the City continue to ensure equal access to housing and to support groups and organizations that provide fair housing counseling/information services.

Goals, Policies and Programs (2001-2006)

THE FOLLOWING PAGES INCLUDE GOALS, POLICIES AND PROGRAMS DESIGNED TO ADDRESS THE NEEDS AS IDENTIFIED ABOVE AND IN THE HOUSING ELEMENT TECHNICAL DOCUMENT.



A EXPAND THE SUPPLY OF RESIDENTIAL UNITS FOR ALL ECONOMIC SEGMENTS.

■ *Policy 3-1: Sufficient Residentially Zoned Land for New Construction Need*

Designate sufficient residentially-zoned land at appropriate densities to provide adequate sites that will meet ABAG's estimate of Cupertino's new construction need of 2,325 units for 2001-2006. Included with that need are the following objectives:

Units Affordable to Very Low Income:	378	units
Units Affordable to Low Income:	188	units
Units Affordable to Moderate Income:	626	units
Units Affordable to Above Moderate Income:	<u>1,133</u>	<u>units</u>
TOTAL	2,325	Units

■ *Implementation Program 1: Housing Units by Planning District*

Encourage residential development in the following planning districts, as provided below. Residential development in these planning districts includes mixed-use, multi-unit residential, and single-family residential at a density of 15-35+ units per acre. Adequate infrastructure is currently available to all districts.

(Please see map on page 73, which identifies the locations for the proposed units by Planning District.)

ADEQUATE SITES
FOR HOUSING

Time Frame:	2001-2006
Responsible Party:	City of Cupertino, Planning Department
Quantified Objective:	
<i>Heart of the City District</i>	433 Units at 35 Units per Acre (12.5 Acres)
<i>North DeAnza District</i>	150 Units at 35 Units Per Acre (4.25 Acres)
<i>Bubb Planning District</i>	150 Units at 15 Units Per Acre (10 Acres)
<i>Homestead District</i>	605 Units at 50 Units Per Acre (12 Acres)
<i>Undesignated</i>	<u>40 Units</u> at 20 Units Per Acre (2 Acres)
TOTAL	1,378 Units

■ **Implementation Program 2: Land Use Designations**

In order to allow for the number of units as identified in Program #1 (Housing Units by Planning Districts), some parcels of land in the specified Planning Districts will need a change in land use designation or zoning. The City will change land use designations/zoning to reflect at least the density range of 15-50 units per acre on those parcels during the 2001-2002 update of the General Plan.

Time Frame:	2001-2002
Responsible Party:	City of Cupertino, Planning Department
Quantified Objective:	
<i>North DeAnza District:</i>	Revise zoning so that all 4.25 acres are zoned at a minimum of 35 units per acre.
<i>Bubb District:</i>	Revise zoning so that all 10 acres are zoned at a minimum of 15 units per acre.
<i>Homestead District:</i>	Revise zoning of 2 acres to 50 units per acre so that a total of 12 acres are zoned at 50 units per acre.

■ **Implementation Program 3: Existing Inventory of Residential Parcels**

Include the existing inventory of residentially-zoned parcels that have been identified as vacant, underdeveloped or infill parcels in addressing the Regional Housing Need.

Time Frame:	2001-2006
Responsible Party:	City of Cupertino, Planning Department

Quantified Objective:

439 Units at <15 Units Per Acre, 29 Acres Total

182 Units at 15-20 Units Per Acre, 12 Acres Total

326 Units at 20-35+ Units Per Acre, 16 Acres Total

■ **Implementation Program 4: Second Dwelling Unit Ordinance**

Evaluate and revise, if necessary, the Second Dwelling Unit Ordinance to encourage the production of more second units on residential parcels. Evaluate existing parking, square footage minimums and other requirements to determine whether revisions would encourage the development of more second units.

Time Frame: 2001-2002 Evaluate and revise program, if necessary

2001-2006: Continue to implement program

Responsible Party: City of Cupertino, Planning Department

Quantified Objective: 25 Second Units Produced, 2001-2006

■ **Policy 3-2: Identify sites for 500 additional housing units (units in addition to the 2,325 unit Regional Housing Need Allocation) as part of the General Plan Update, subject to analysis of traffic and other related impacts.**

■ **Implementation Program 5: General Plan Update**

During the General Plan Update of 2001-2002, sites will be evaluated to provide 500 dwelling units, in addition to those identified for the Regional Housing Need Allocation. Sites will be evaluated based on environmental impacts and traffic analysis. If these impacts are determined to be minimal, the City may choose to designate sites for up to 500 housing units.

Time Frame: 2001-2002

Responsible Party: City of Cupertino, Planning Department

Quantified Objective: 80 Very Low Income Units

40 Low Income Units

135 Moderate Income Units

245 Above-Moderate Income Units

500 Total Units

B DEVELOP HOUSING THAT IS AFFORDABLE FOR A DIVERSITY OF CUPERTINO HOUSEHOLDS.



■ Policy 3-3: Implement the City's Housing Mitigation Plan, which addresses affordable housing needs for owner and renter housing in the community. Assign priority to households who live or work in Cupertino for BMR units produced through the plan or affordable housing units built with mitigation fees.

■ Implementation Program 6: Housing Mitigation Plan - Office and Industrial Mitigation

The City will continue to implement the "Office and Industrial Mitigation fee program. This program requires that developers of office and industrial space pay a fee which will then be used to support affordable housing for families who work in Cupertino but live elsewhere. These fees are collected and then deposited in the City's Affordable Housing Fund. The City will conduct an updated "nexus" study to determine whether the manner in which fees are calculated is still appropriate.

AFFORDABLE
HOUSING
PROVIDED BY
HOUSING
MITIGATION PLAN

Time Frame: 2002-2003 Conduct updated nexus study

2001-2006 Implement Mitigation Plan

Responsible Party: City of Cupertino, Planning Department

■ Implementation Program 7: Housing Mitigation Plan - Residential Mitigation

The City will continue to implement the "Housing Mitigation" program. This program applies to all new residential development of one unit or greater. Mitigation includes either the payment of an in-lieu fee or the provision of a Below Market Rate (BMR) unit or units. Projects of 10 units or more must provide on-site BMR units. Projects of 9 units or less can either build a unit or pay an in-lieu fee. Implementation of the program shall include:

- a) priority for occupancy to households who reside, work, attend school or have family in Cupertino;
- b) additional priority for households with wage earners who provide a public service; specifically, employees of the City, local school district and public safety agencies;
- c) utilize City's Affordable Rent Schedule as a guideline in setting rents for new affordable housing;
- d) update the rent schedule each year as new income guidelines are received and determine a uniform method for allowing rent adjustments for affordable housing;
- e) allow developers to meet all or a portion of their BMR requirement by making land available for the City or a non-profit housing developer to construct affordable housing;
- f) require BMR units to remain affordable for a minimum of 99 years;
- g) enforce the City's first right of refusal for BMR units, and
- h) revise the program requirement from 10% to 15% immediately upon adoption of 2001 Housing Element.

Time Frame: Immediately: Increase 10% BMR requirement to 15% upon adoption of element

2001-2006: Implement Program

AFFORDABLE
HOUSING FUND

Responsible Party: City of Cupertino, Planning Department

Quantified Objective: 159 very low income units
159 low income units
53 median income units
53 moderate income units

■ **Implementation Program 8: Affordable Housing Fund**

The City's Affordable Housing Fund provides financial assistance to affordable housing developments. "Requests for Proposals" (RFPs) will be solicited from interested parties to develop affordable units with housing funds. Affordable housing funds will be expended in the following manner (ranked in order of priority):

- a) Finance affordable housing projects in Cupertino.
- b) Establish a downpayment assistance plan that may be used in conjunction with the BMR program or to make market rate units more affordable. The assistance should be in the form of low interest loans and not grants.
- c) Establish a rental subsidy program to make market rate units more affordable.

Time Frame: 2001-2006

Responsible Party: City of Cupertino, Planning Department

Quantified Objective: 40 very low income units; 40 low income units

■ **Policy 3-4: Encourage the development of a diverse housing stock that provides a range of housing types (including smaller, moderate cost housing) and affordability levels. Emphasize the provision of housing for lower and moderate income households and, also, households with wage earners who provide a public service (e.g. school district employees, municipal and public safety employees, etc.)**

■ **Implementation Program 9: Mortgage Credit Certificate Program**

Participate in the countywide Mortgage Credit Certificate (MCC) Program. This program allocates mortgage credit certificates to first-time homebuyers to purchase housing units. Due to the high cost of housing units in Cupertino, it is estimated that most of the County's MCCs will be used in the City of San Jose, where there are more low cost housing units available for sale.

Time Frame: 2001-2006

Responsible Party: Santa Clara County Mortgage Credit Certificate Program

Quantified Objective: 1-2 Households Assisted Annually

■ **Implementation Program 10: Move-In for Less Program**

The Tri-County Apartment Association is managing this program which recognizes the high cost of securing rental housing. The program is geared to classroom teachers in public or private schools who meet income criteria.

Apartment owners/managers who agree to participate in the program require no more than 20% of the monthly rent as a security deposit from qualified teachers.

Time Frame: 2001-2006

Responsible Party: Tri-County Apartment Association and City of Cupertino

Implementation Program 11: Surplus Property for Housing

In conjunction with local public agencies, school districts and churches, the City will develop a list of surplus property or underutilized property that have the potential for residential development, compatible with surrounding densities. Additionally, long-term land leases of property from churches, school districts and corporations for construction of affordable units shall be encouraged. Further, the feasibility of developing special housing for teachers or other employee groups on the surplus properties will also be evaluated. Teacher-assisted housing programs in neighboring districts, such as Santa Clara Unified School District, will be reviewed for applicability in Cupertino.

Time Frame: 2002-2003: Develop list of surplus properties and evaluate feasibility of developing residential units on properties.

Responsible Party: City of Cupertino, Planning Department

Implementation Program 12: Jobs/Housing Balance Program

In 2001, ABAG's estimate of the City's job/housing ratio was 2.4 jobs to every household. The goal is to reduce this ratio during the time frame of this Housing Element. Further, the City will evaluate the feasibility of developing a policy and/or program that conditions approval of job producing activities to housing production.

Time Frame: 2002-2003: Develop procedure to evaluate job-producing development proposals. Evaluate feasibility of policy and/or program that ties new job production to housing production.

2002-2006: Implement procedure

Responsible Party: City of Cupertino, Planning Department

Policy 3-5: Pursue and/or provide funding for the construction or rehabilitation of housing that is affordable to very low, low and moderate income households. Actively support and assist non-profit and for-profit developers in producing affordable units.

Implementation Program 13: Affordable Housing Information and Support

The City will provide information, resources and support to developers who can produce affordable housing. Information will be updated on a regular

JOBS AND
HOUSING
BALANCE

basis in regard to available funding sources and be distributed to all interested developers. In addition, information regarding additional City incentives such as the Density Bonus Program (see program #14) will also be provided and updated on a regular basis. Further, the City will involve the public from the beginning of an affordable housing application so that there are fewer objections to the project as it goes through the City approval process.

Time Frame: 2001-2006

Responsible Party: City of Cupertino, Planning Department

■ ***Policy 3-6: Maintain and/or adopt appropriate land use regulations and other development tools to encourage the development of affordable housing. Make every reasonable effort to disperse units throughout the community but not at the expense of undermining the fundamental goal of providing affordable units.***

■ ***Implementation Program 14: Density Bonus Program***

The City's Density Bonus Program provides for a density bonus and additional concessions for developments of 6 or more units that provide affordable housing for families and seniors. Included in the concessions are reduced parking standards, reduced open space requirements, reduced setback requirements, and approval of mixed use zoning. The City will change the Ordinance definition of affordable unit to housing costs affordable at 30% of household income for very low and low-income households.

Time Frame: 2002-2003 Change affordability definition

Responsible Party: City of Cupertino, Planning Department

■ ***Implementation Program 15: Regulatory Incentives***

The City will continue to waive park dedication and construction tax fees for all affordable units. Parking standards will also be discounted for affordable developments. For mixed-use and higher density residential developments, the Planning Commission or City Council may approve deviations from the Parking Regulations Ordinance of the Cupertino Municipal Code, if the applicant can provide a study supporting the deviation. Further, the City will continue to efficiently process all development applications.

Time Frame: 2001-2006

Responsible Party: City of Cupertino, Planning Department

■ ***Implementation Program 16: Residential and Mixed Use Opportunities In or Near Employment Centers***

The City will encourage mixed use development and the use of shared parking facilities in or near employment centers. In addition to the development opportunities available through the "Heart of the City" Specific Plan, the City will evaluate the possibility of allowing residential development above existing parking areas. In specific, these areas would be near or adjacent to employment centers and could provide additional opportunities for housing.

Time Frame: 2002-2003 Evaluate parking opportunity sites

2002-2003 Evaluate incentives that may be offered to encourage residential development in or near employment centers.

Responsible Party: City of Cupertino, Planning Department

Policy 3-7: *When the City begins to collect tax increment revenues from the Redevelopment Project Area, a minimum of 20% of tax increment funds generated will be used for housing activities that create affordable housing for lower and moderate income households.*

Implementation Program 17: Redevelopment Housing Set-Aside Funds

The City has established a Redevelopment Project Area but has not yet collected tax increment funds. When those funds are collected, a minimum of 20% of tax increment funds will be directed to housing activities. The Redevelopment Agency will develop policies and objectives for the use of those funds. All policies and objectives shall be developed to reflect the goals and objectives of this Housing Element.

Time Frame: 2002-2003 Develop Policies and Objectives for Use of Housing Set-Aside Funds

Responsible Party: City of Cupertino, Planning Department

C CONSERVE AND ENHANCE RESIDENTIAL NEIGHBORHOODS.

Policy 3-8: *Assist very low and low-income homeowners and rental property owners to maintain and repair their housing units.*

Implementation Program 18: Housing Rehabilitation Program

This program provides financial assistance to eligible very low and low-income homeowners to rehabilitate their housing units. The County of Santa Clara, Housing and Community Development (HCD), administers the program on behalf of the City of Cupertino. When the City becomes an Entitlement community in 2002-2003, housing rehabilitation activities will continue to be funded.

Funding Source: CDBG Funds

Time Frame: 2001-2006

Responsible Party: City of Cupertino and County of Santa Clara (HCD)

Quantified Objective: 5 Housing Units Rehabilitated Annually



REHABILITATION
PROGRAMS
INCLUDE ACCESS
AND
WEATHERIZATION
IMPROVEMENTS

■ **Implementation Program 19: Home Access Program**

The Home Access Program provides assistance with minor home repairs and accessibility improvements for lower-income, disabled households. Economic and Social Opportunities (ESO) administers the program under a contract with the County of Santa Clara.

Funding Source: Santa Clara County Urban County CDBG Funds

Time Frame: 2001-2006

Responsible Party: ESO and County of Santa Clara (HCD)

Quantified Objective: 3-5 Households Assisted Annually

■ **Implementation Program 20: Weatherization Program**

This program assists very low income homeowners with weatherization improvements to their homes. The program is administered in Cupertino and other areas of the County by Economic and Social Opportunities (ESO)

Funding Source: State of California Energy Conservation Program

Time Frame: 2001-2006

Responsible Party: ESO

Quantified Objective: 3-5 Households Assisted Annually

■ **Implementation Program 21: Apartment Acquisition and Rehabilitation**

The County of Santa Clara administers HOME and CDBG funds on behalf of the members of the Urban County and HOME Consortium. The City of Cupertino participates in both the Urban County and Consortium activities. Funds are available on a competitive basis to developers to acquire and rehabilitate rental units for very low and low-income households. When the City becomes an entitlement community in 2002-2003, the City will continue to include the availability of HOME and CDBG fund for apartment acquisition and/or rehabilitation.

Funding Source: HOME and CDBG Funds

Time Frame: 2001-2006

Responsible Party: City of Cupertino

■ **Implementation Program 22: Preservation of "At Risk" Units**

The only affordable housing development at risk of converting to market rate is the Sunnyview development. The expiration date of their federal subsidy is May 31, 2004. However, the development is considered at low risk for converting because it is owned by a non-profit organization which has indicated

that it will renew the assistance again in 2004. However, the City will monitor the development and will initiate contact in late 2003 with the owner and HUD to ensure that the units remain affordable

Time Frame: 2003 Initiate contact with owner and HUD to determine status of subsidy renewal

Responsible Party: City of Cupertino, Planning Department

Quantified Objective: 100 Units Preserved as Affordable Housing

Implementation Program 23: Condominium Conversions

The City's existing Condominium Conversion Ordinance prevents the conversion of rental units in multi-family housing developments from converting to condominiums. Condominium conversions are not allowed if the rental vacancy rate in Cupertino is less than 5% at the time of the application for conversion and has averaged 5% over the past six months. The City will continue to implement this Ordinance in order to preserve the rental housing stock.

Time Frame: 2001-2006

Responsible Party: City of Cupertino, Planning Department

Quantified Objective: No Conversions

Implementation Program 24: Rental Housing Preservation Program

The City's existing multi-family rental units provide housing opportunities for households of varied income levels. The City will develop and adopt a program that includes the following guidelines:

When a proposed development or redevelopment of a site would cause a loss of multi-family rental housing, the City will grant approval only if at least two of the following three circumstances exist:

- The project will produce at least a 100% increase in the number of units currently on the site and will comply with the City's BMR Program, and/or
- The number of rental units to be provided on the site is at least equal to the number of existing rental units, and/or
- No less than 20% of the units will comply with the City's BMR Program.

Further, the preservation program will include a requirement for a tenant relocation plan with provisions for relocation of tenants on site as much as possible.

Time Frame: 2002-2003 Design and Program
2002-2006 Implement Program

Responsible Party: City of Cupertino, Planning Department

■ **Implementation Program 25: Conservation and Maintenance of Affordable Housing**

Develop a program to encourage the maintenance and rehabilitation of residential structures to preserve the older, more affordable housing stock.

Time Frame: 2003-2004 Design Program
2004-2006 Implement Program

Responsible Party: City of Cupertino, Planning Department

■ **Implementation Program 26: Neighborhood and Community Clean-up Campaigns**

Continue to encourage and sponsor neighborhood and community clean up campaigns for both public and private properties.

Time Frame: 2001-2006

Responsible Party: City of Cupertino, Planning Department

■ **Policy 3-10: Encourage energy conservation in all existing and new residential development.**

■ **Implementation Program 27: Energy Conservation Opportunities**

The City will continue to enforce Title 24 requirements for energy conservation and will evaluate utilizing some of the other suggestions as identified in Chapter 9 of this document.

Time Frame: 2001-2006

Responsible Party: City of Cupertino, Planning Department

■ **Implementation Program 28: Fee Waivers or Reductions for Energy Conservation**

The City will evaluate the potential to waive or reduce fees for energy conservation improvements to residential units (existing or new).

Time Frame: 2002-2003

Responsible Party: City of Cupertino, Planning Department

D SUPPORT ORGANIZATIONS THAT PROVIDE SERVICES TO SPECIAL NEED HOUSEHOLDS.

■ **Policy 3-11: The City will continue to support organizations that provide services to special need households in the City; such as homeless, elderly, disabled and**



single parent.

■ Implementation Program 29: Cupertino Community Services (Homeless Services)

Cupertino Community Services (CCS) manages transitional housing and administers the "Continuum of Care" services for homeless, including the rotating shelter program. In order to facilitate any future emergency shelter needs, the City will revise the Zoning Ordinance to allow permanent emergency shelter facilities in "BQ" quasi-public zones and will promote and encourage the location of permanent shelters in BQ zones.

Funding Source: County of Santa Clara Urban County funds and federal funds

Time Frame: 2001-2002 Revise Zoning Ordinance to allow permanent emergency shelters in BQ zones

2001-2006 Continue to support services of CCS to assist homeless households

Responsible Party: Cupertino Community Services

Quantified Objective: Transitional Housing for 12-24 Households Annually

■ Implementation Program 30: Project MATCH (Senior Shared Housing)

Project MATCH places seniors in housing arrangements with other persons interested in shared housing. Seniors may either be the homeowner who has extra bedroom space to share with another or the person who rents a bedroom from another household. Project MATCH is funded with County of Santa Clara Urban County funds.

Funding Source: County of Santa Clara Urban County Funds

Time Frame: 2001-2006

Responsible Party: Project MATCH

Quantified Objective: 5-10 Cupertino Households Placed Annually

■ Implementation Program 31: Catholic Charities Social Services (Single-parents)

Catholic Social Services provides helps to place single parents in shared housing situations. The program is funded with Santa Clara County Urban County funds.

Funding Source: County of Santa Clara Urban County Funds

Time Frame: 2001-2006

Responsible Party: Catholic Social Services



Quantified Objective: 5-10 Cupertino Households Placed Annually

E ENSURE THAT ALL PERSONS HAVE EQUAL ACCESS TO HOUSING OPPORTUNITIES.

■ *Policy 3-12: Support programs and organizations that seek to eliminate housing discrimination.*

■ *Implementation Program 32: Santa Clara County Fair Housing Consortium*

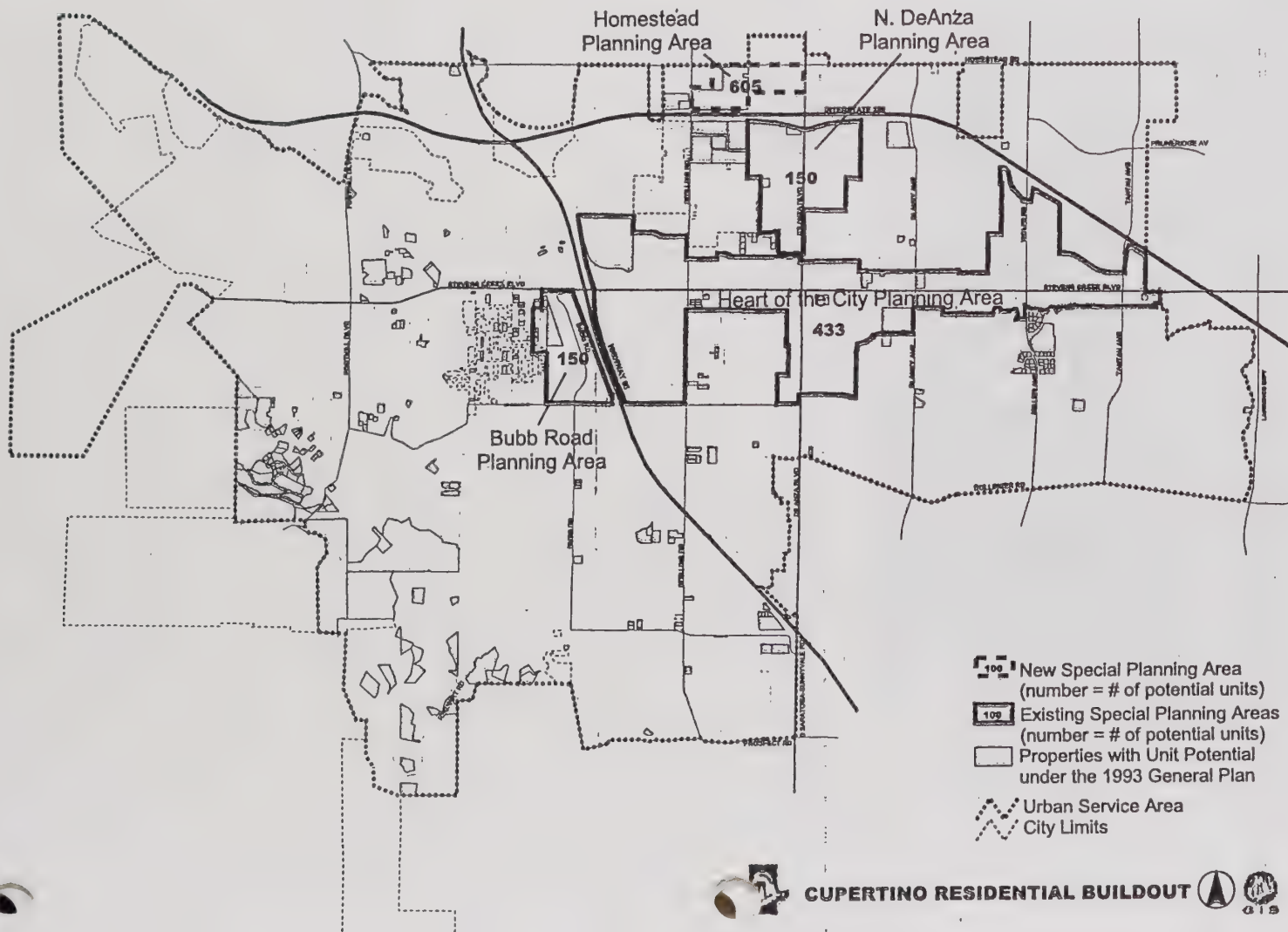
The Santa Clara County Fair Housing Consortium includes the Asian Law Alliance, Mid-Peninsula Citizens for Fair Housing, Project Sentinel and the Mental Health Advocates Program. These organizations provide resources for Cupertino residents with tenant/landlord, rental mediation, housing discrimination and fair housing concerns. Administrative funding for these organizations is partially contributed by County of Santa Clara Urban County funds.

Funding Source: County of Santa Clara Urban County Funds

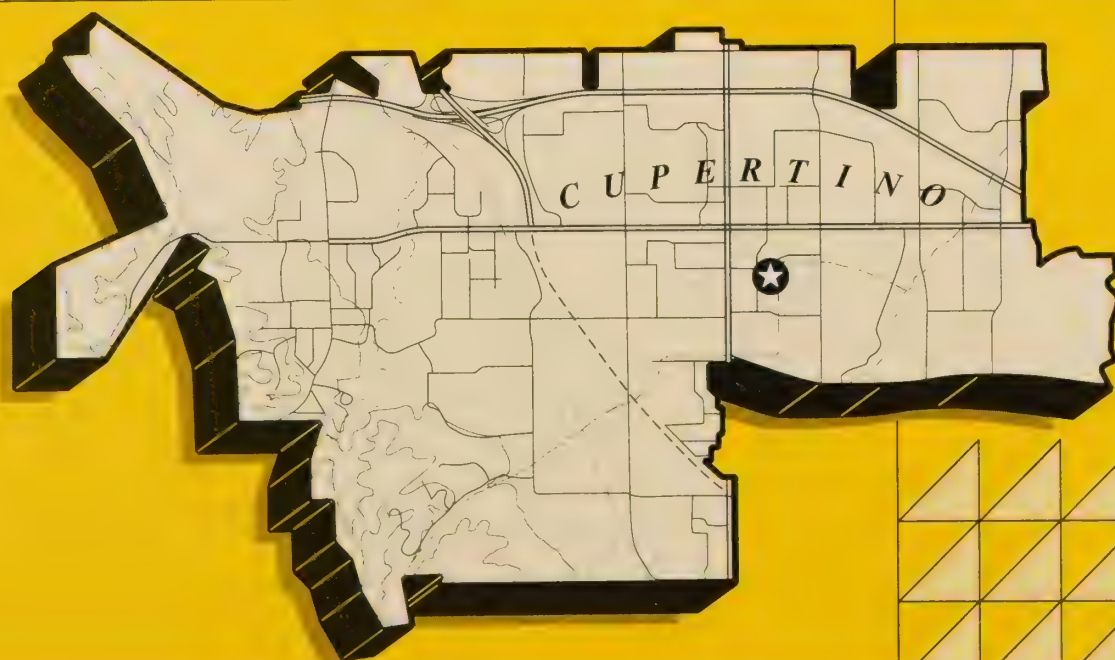
Time Frame: 2001-2006

Responsible Party: Santa Clara County Fair Housing Consortium

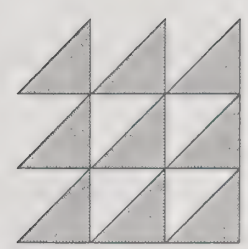
The map on the next page illustrates the location and number of units estimated by Planning Area to accommodate the goals of Programs 1 and 2 on pages four and five of this document.



	Very Low	Low	Moderate	Above Moderate	
ADEQUATE SITES FOR REGIONAL HOUSING NEED	1,378 Units				1. Units by Planning District 2. Land Use Designations
	326 Units		182 Units	439 Units	3. Existing Inventory
			25 Units		4. Second Unit Ordinance
AFFORDABLE HOUSING PROGRAMS	159 Units	159 Units	106 Units		7. Housing Mitigation (BMR) Program
	40 Units	40 Units			8. Affordable Housing Fund
			5-10 Households		9. Mortgage Credit Certificates
HOUSING REHABILITATION	25 Units Rehabilitated				18. Housing Rehabilitation
	15-25 Households Assisted				19. Home Access Program
	15-25 Households Assisted				20. Weatherization Program
PRESERVATION OF EXISTING HOUSING	100 Units				22. Preserve "At Risk" Units
SPECIAL NEED HOUSING	60-120 Households				29. Cupertino Community Services
	25-50 Households				30. Project MATCH
	25-50 Households				31. Catholic Social Services



1998



Section 4

Transportation

Introduction

People in Cupertino use different means of travel—from driving on the freeway to taking a bus or a car on a street to walking along a hiking trail. This element's purpose is to integrate the travelways and the transit service into a single system that blends with Cupertino lifestyles.

A PROMOTE A BALANCED CIRCULATION SYSTEM THAT IS INTEGRATED WITH THE REGIONAL SYSTEM, OFFERING FLEXIBILITY FOR THE FUTURE BY ALLOWING FOR A VARIETY OF FORMS OF TRANSPORTATION AND KEEPING NEGATIVE ENVIRONMENTAL AND SOCIAL EFFECTS ON THE COMMUNITY TO A MINIMUM.



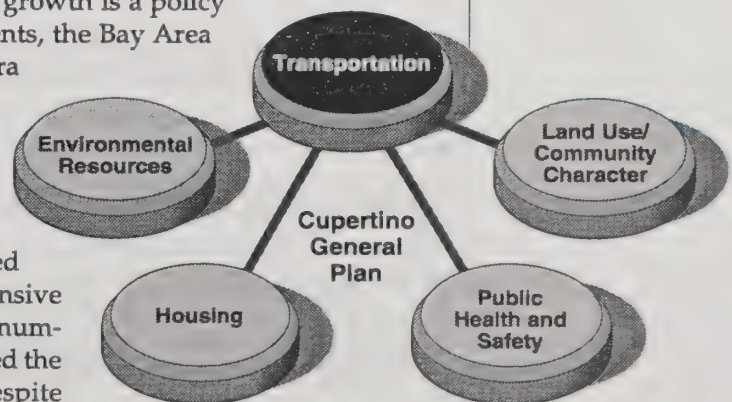
The Regional Perspective

Cupertino does not plan its circulation system in a vacuum; it participates in regional and sub-regional planning and supports the Santa Clara County Congestion Management Agency, Measure A Task Force (Local Transportation Authority), and the Santa Clara County Transportation Plan (T2010). The City requires bus turn outs to be built at key intersections and makes sure that new development encourages bus patrons to walk home from the bus stop. A bus transfer station will be built in Vallco Park when new development in the neighborhood warrants it.



Regional transportation planning efforts involve land use. The jobs-housing imbalance in northern Santa Clara County makes the transportation picture worse. Increasing the housing opportunity next to areas with employment growth is a policy advocated by the Association of Bay Area Governments, the Bay Area Council, other public interest groups and the Santa Clara County Board of Supervisors.

Cupertino responded to this challenge in 1978-1979 by significantly increasing allowed density ranges. The effort was augmented by changes to land use and housing policy in 1993 which reallocated potential commercial development to less traffic intensive office development zones and increased the potential number of housing units. The 1992 policy changes increased the potential housing by approximately 1,000 units. Despite



density increases that theoretically would have increased the future housing supply, Cupertino may not be able to balance new jobs with new housing. It would have to rezone the majority of industrial parcels located in built-up industrial areas to high-density residential to achieve this balance. This is not practical because most of that land is planned for the expansion of existing firms and most of the remaining parcels are too small for housing. Cupertino encourages mixed-use development to increase housing supply.

■ ***Policy 4-1: City Participation in Regional Transportation***

Participate actively in developing regional approaches to meeting the transportation needs of residents of the Santa Clara Valley.

Strategies

1. **Congestion Management Agency.** Continue to actively participate in the Congestion Management Plan and other regional efforts to control traffic congestion and its attendant air pollution impacts by:
 - a. requiring a separate traffic analysis using Congestion Management Agency (CMA) methodology for projects that generate a large amount of peak hour traffic.
 - b. preparing a deficiency plan as defined by CMA if the regional transportation system is seriously congested.
2. **Expansion of Bus Fleet.** Support the expansion of the County Transit District bus fleet and support prioritizing commuter express services along expressways and City arterial streets.
3. **Extension of rapid transit.** Support the extension of rapid transit along North De Anza Boulevard/ Highway 85 Corridor and Stevens Creek Boulevard Corridor by the following means:
 - a. All right-of-way improvement projects shall be reviewed for potential opportunities and constraints to rapid transit extension in these corridors.
 - b. Focus higher development intensities along the corridors and orient the design of such developments to serve future transit patrons and pedestrians.
 - c. Seek the cooperative support of residents, property owners and businesses in planning for a rapid transit extension.

The Local Perspective

Cupertino's land use and circulation plans control the intensity of development, based on the capacity of the street network to carry traffic, incorporating measures that protect residential areas from through traffic.

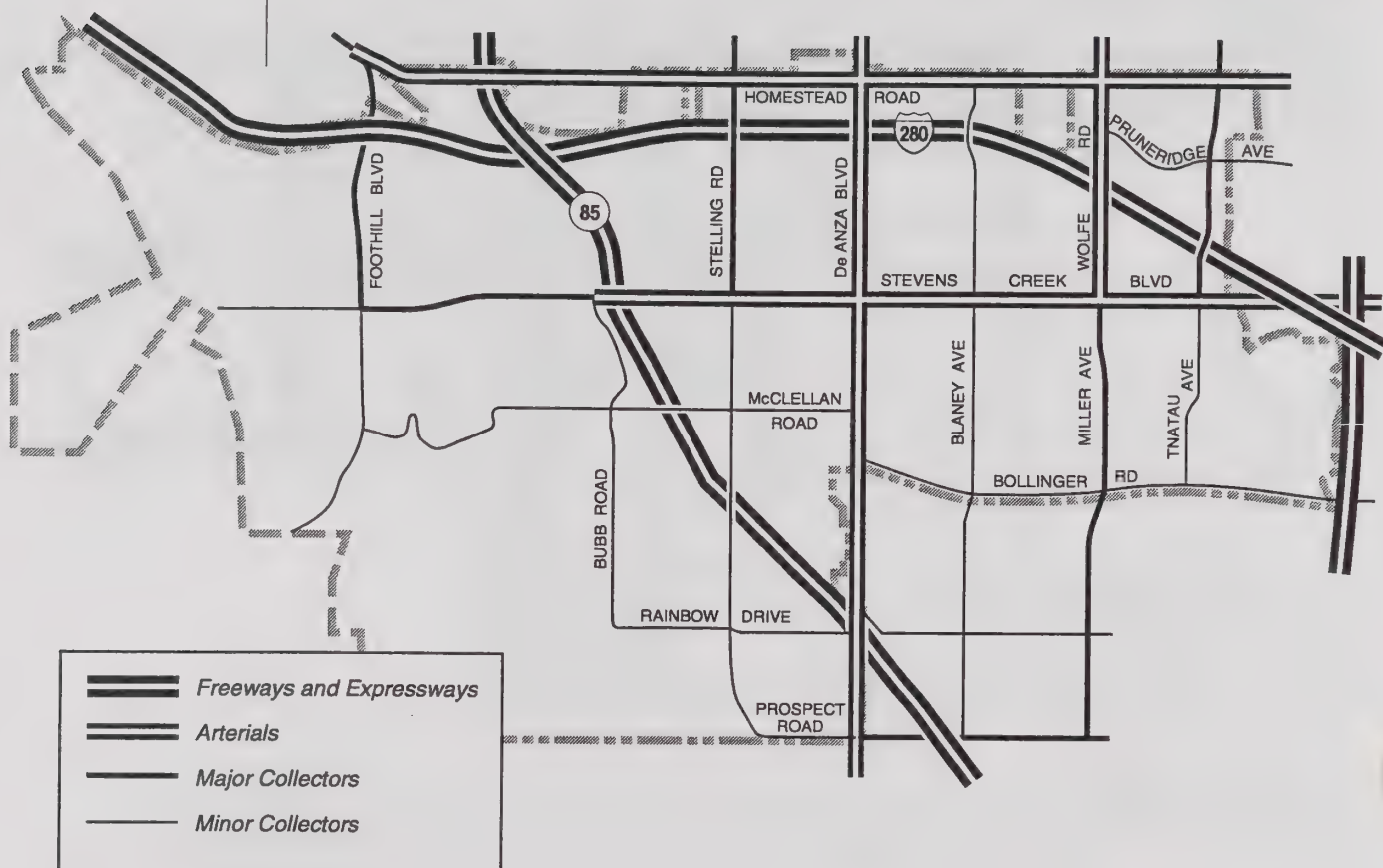


Figure 4-B. Primary Circulation Plan.

Table 4-A. Traffic Service Levels.

Level of Service per Vehicle	Stopped Delay (Seconds)	Description
A	5.0	Free flow, no congestion (very little delay)
B	5.1 to 15.0	Stable flow, some congestion (slight delay)
C	15.1 to 25.0	Stable flow, moderate congestion (acceptable delay)
D	25.1 to 40.0	Approaching unstable flow, high congestion (tolerable delay)
E	40.1 to 60.0	Unstable flow, near breakdown (unacceptable delay)
F	60.0	Forced flow, breakdown (very long delay)

Table 4-B. Street Hierarchy.

Street Category	Street Function	Typical Number of Lanes and Access Characteristics
Freeways and Expressways	Inter-State/Inter-City Highways carrying inter-city, inter-county and inter-state traffic. Freeways and expressways do not provide direct access to abutting lands.	4 lanes or greater (No access to adjoining property)
Arterial	Inter-City Streets and highways serving major metropolitan activity centers, the highest traffic volume corridors. The longest trip demand, and a high proportion of total urban area travel on a minimum of mileage. Service to adjoining land should come second to providing access to major freeways and expressways. This system carries the major portion of trips entering and leaving an urban area, and normally will carry important intra-urban as well as inter-city bus routes.	4 lanes or greater (Limited access to adjoining property)
Major Collector	Inter-City/Inter-Neighborhood Streets and highways interconnecting with and augmenting the arterial system and providing service to trips of moderate length at a somewhat lower level of travel mobility. The system places more emphasis on land access and distributes travel to geographic areas smaller than those identified with the higher system.	2 - 4 lanes (Direct and indirect access to adjoining property)
Minor Collector	Inter-City/Inter-Neighborhood Streets penetrating neighborhoods, collecting traffic from local streets in the neighborhoods and channeling it into the arterial system. A minor amount of through traffic may be carried on collector streets, but the system primarily provides land access service and carries local traffic movements within residential neighborhoods, commercial, and industrial areas. It may also serve local bus routes.	2 - 4 lanes (Direct access to adjoining property)
Local	Intra-Neighborhood Streets not classified in a higher system, primarily providing direct access to abutting land and access to the higher systems. They offer the lowest level of mobility and usually carry no bus routes. Service to through traffic is deliberately discouraged. Local streets may function to "collect" traffic from the immediate neighborhood and provide access to the other street categories.	2 lanes (Direct access to adjoining property)

Policy 4-2: Traffic Capacity and Land Use Limitations

Maintain a reasonable minimum LOS D for major intersections during the a.m. and p.m. peak traffic hours (highest single hours) by imposing reasonable limits on land use to ensure that principal thoroughfares are not unduly impacted by locally generated traffic during the peak traffic hour.

In order to accommodate development which furthers a unique community gathering place on Stevens Creek Boulevard, the intersection of Stevens Creek and De Anza boulevards and De Anza Boulevard and Bollinger Road may maintain a LOS E+ (No more than 45 seconds weighted delay).

For land use and transportation planning purposes, the traffic peak hour should not be allowed to expand into the peak period. Staggering of work hours beyond current levels is not acceptable as a transportation demand management (TDM) technique. The TDM technique must benefit both the peak hour traffic and the average daily traffic volume.

Strategies

1. **Right-of-Way Limitation.** In order to minimize the barrier effect of major streets and the negative aesthetics, limit mid-block right-of-way capacity to a maximum of eight lanes for De Anza Boulevard and six lanes for Stevens Creek Boulevard.
2. **Development/Floor Area Ratio Limitation.** In order to maintain a desired level of transportation system capacity, the city's remaining commercial development potential shall be pooled and reallocated according to the City's development priorities tables. Floor Area Ratio (FAR) limitations apply to all remaining office and industrial properties, unless a property owner received bonus FAR credit authorized by the 1983 General Plan and/or a higher development allocation, above the FAR limitation, approved by the City. The properties previously regulated by the traffic intensity performance standard (TIPS) will be regulated by a floor area ratio specified in the Land Use Element.

Businesses that generate traffic levels significantly higher than those typically found in a similar zoning district will be subject to the "Extraordinary Use Policy" contained in the Development Intensity Manual.

3. **Citywide Transportation Improvement Plan.** Carry out a citywide transportation improvement plan to accommodate peak hour traffic flows on arterial streets and major collector streets at a minimum of Service Level D. Service Level E+ (45 seconds weighted delay) is acceptable only for the intersection of De Anza and Stevens Creek boulevards and De Anza Boulevard and Bollinger Road to implement the Heart of the City Concept. If feasible, the plan should maintain existing levels of service higher than Level D. The percent or number of through trips on arterial and major collector streets is not regulated.
4. **Underpass at De Anza and Stevens Creek Boulevards.** If needed to implement significant, new growth, the City should consider an underpass at De Anza and Stevens Creek boulevards to improve traffic flow

5. **Traffic Assessment after Highway 85 Completion.** After the completion of Highway 85, the City should conduct a traffic analysis of the street system to determine opportunities to improve the Level of Service.
6. **Annual LOS Analysis.** Conduct an annual Level of Service analysis, to be completed at the time of the annual General Plan Review.

Traffic Modeling

Cupertino uses a traffic model that inputs existing and planned land uses and densities and assigns future work, shopping and recreation trips to the street network. The model includes future traffic generated by projected growth in surrounding communities and De Anza College, along with significant future road improvements, including pending improvements in the Highway 85 corridor and Measure A (1984) transportation projects. Most of the county's T2010 improvements are not included in the model. The model calculates traffic volumes and Level of Service for various intersections, enabling the City to determine how much new development can occur without exceeding the City LOS standards and road width criterion.

The land use plan allocates available development potential and establishes land use intensity controls in the form of development priorities and height limits for each area of Cupertino.

Each time a new development application is reviewed, the Level of Service and maximum lane width criteria are considered so that the traffic carrying capacity of the road remains in line with new development.

Traffic Controls on New Development

Policy 4-3: Coordination of Street Improvements

Develop the street construction plan ensuring critical street improvements are finished before or at the same time as major developments. The plan should be based on the principle of equity, ensuring that land developers help pay for street improvements.

SEE MUNICIPAL
CODE CHAPTER 14.04

Strategy

Traffic Evaluations With New Development. Require a traffic evaluation when the final development plans for any major development are filed.

The five-year Capital Improvements Program outlines improvements for the entire network. The timing of improvements will be adjusted depending on land development projects.

Description of the Circulation Plan

Figure 4-B describes Cupertino's Circulation Plan for City streets except for residential streets, which are not shown. It locates the freeways, expressways, arterials and major and minor collectors. Table 4-B defines the function of each street type and its typical lane design.

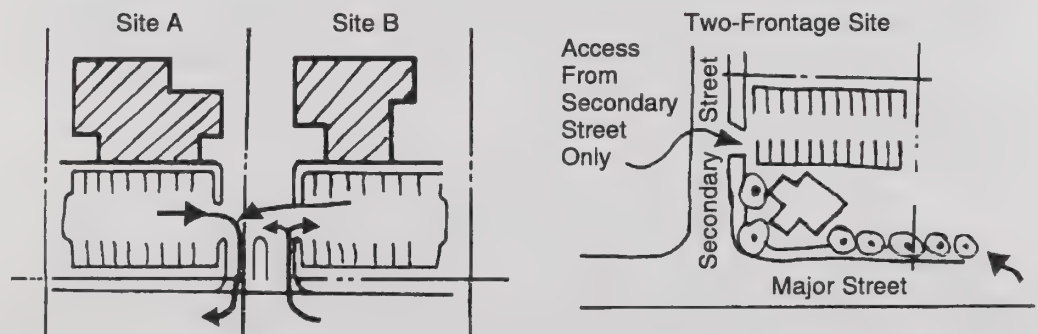
The street hierarchy is designed to concentrate traffic on freeways and arterials that serve commercial and industrial areas and to shift traffic away from residential areas to the network of freeways and arterials. The plan is put into effect in stages by the five-year Capital Improvements Program and by improvements built along with new development.

Cupertino uses site planning criteria to control development, thus obtaining a more efficient street system. The area plans controlling development next to major arterials have design standards that strictly limit the number of access points to the property. Curb breaks are typically shared by adjoining properties and developers are required to record reciprocal circulation easements. These easements allow adjoining properties to share roads and gain access to secondary streets that intersect with major arterials.

The North De Anza Boulevard plan requires property owners to participate in the construction of Bandle Avenue that parallels De Anza Blvd. A system of private driveway connections is required to link adjoining parking lots. As a result, De Anza Blvd. has few curb breaks and few side restrictions to slow traffic. The policy's secondary benefit is that the lack of curb breaks has resulted in an attractive streetscape.

Policy 4-4: Driveway Interconnection

Discourage direct access from adjoining properties to major arterial streets. Require access by interconnecting private driveway networks linking side streets or other major entrance points unless— this is unsafe or impractical because of the established development pattern.



Interconnecting Driveways to Reduce Curb Breaks.

Cupertino uses a computerized traffic signal interconnect system to increase the traffic-carrying capacity of arterial streets. The system controls the flow at intersections to favor commute traffic. Green lights are longer on major arterials to encourage shoppers, commuters and employees to use those streets.

These policies encourage travelers to use the arterial system. Cupertino discourages drivers from other cities from using local streets and, where appropriate, local collector streets, by means of stop signs, speed bumps, raised medians, diverters and intensified enforcement of speed limits.



■ ***Policy 4-5: Protection From Effects of Transportation System***

Work to protect the community from noise, fumes and hazards caused by the City's transportation system.

■ ***Policy 4-6: Neighborhood Traffic Management***

Develop traffic management plans for neighborhoods affected by unacceptable levels of through traffic. Design these plans based on the concept that commute or through traffic should be redirected from local residential streets and minor collectors to the freeway, expressway and arterial and major collector streets.

■ ***Policy 4-7: Abusive Driving***

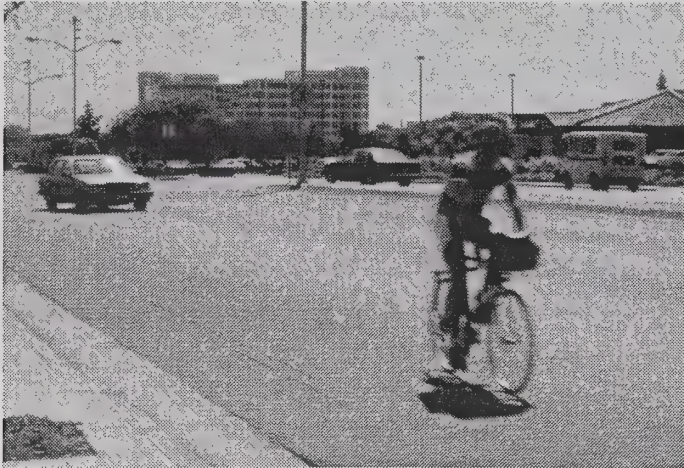
Continue to study and carry out techniques that discourage abusive driving on local neighborhood streets, including intensified enforcement of speed laws, enforcement of State muffler laws and review of traffic management strategies.

Accommodating Alternatives to the Automobile

Developing travel routes and methods that are alternatives to the automobile will increase the efficiency of the system. However, until alternatives are widely accepted locally, Cupertino cannot rely on them to reduce traffic levels noticeably. For people who wish to use them, the City will encourage alternatives to the automobile. Bike lanes must be safe and conveniently located. Buses must be frequent and allowed to use preferential lanes where possible.

■ ***Policy 4-8: Reliance on Usage of Private Cars***

Promote a general decrease in reliance on private cars by accommodating and encouraging attractive alternatives.



Strategies

1. **Alternative Transportation.** Encourage use of alternative transportation, such as bicycles and motor bikes, as well as techniques that increase the number of people in each vehicle, such as buses and van and car pooling.
2. **Street Space for Alternative Transportation.** Provide space on appropriate streets for bus turn outs, safe and accessible bike lanes and pedestrian paths.
3. **On-Site Bike Facilities.** Require on-site bicycle facilities, including parking facilities, showers and clothing storage lockers, in industrial and commercial developments.
4. **Coordination of Bicycle Planning.** Coordinate bicycle route planning with surrounding cities and the County in order to provide for the commuting needs of workers, shoppers and students and the travel needs of park users.
5. **Designing for Alternative Transportation.** Require grade-separated thoroughfare construction to provide adequate design and width to accommodate bicycle lanes and pedestrian crossings.
6. **Alternative Transportation Information.** Use the Cupertino Scene and other media to provide educational material on non-motoring travel.
7. **Citizen Participation.** Continue to work with the City Bicycle/Pedestrian Advisory Committee, community groups and residents to eliminate hazards and barriers to bicycle and pedestrian traffic.
8. **Shuttle Service.** Consider the possibility of creating a shuttle service to link a proposed bus transfer station in Vallco Park with Town Center and North De Anza Blvd. Reassess the feasibility of requiring car or van pooling.

Alternative transportation can enhance recreational opportunities. Figure 4-C shows a plan for bikeways. It coordinates directly with bikeways planning by the County and the MidPeninsula Regional Open Space District.

Policy 4-9: Regional Trail Development

Continue to plan and provide for a comprehensive system of trails and pathways consistent with regional systems, including the Bay Trail, Stevens Creek Corridor and Ridge Trail. The general alignment of the Bay Trail, as shown in the Association of Bay Area Governments' Bay Trail planning document, is incorporated in the General Plan by reference.

SEE POLICY 5-42

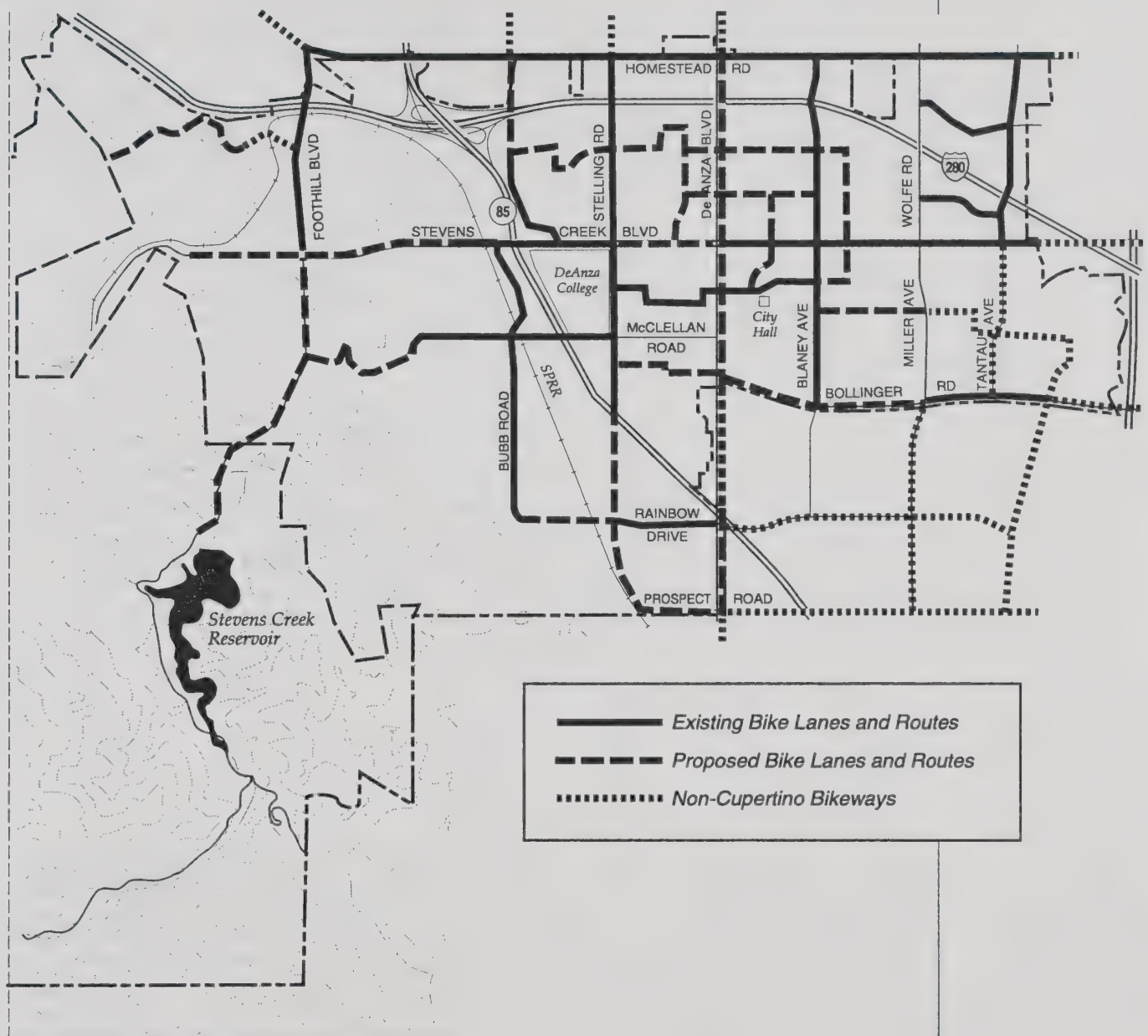
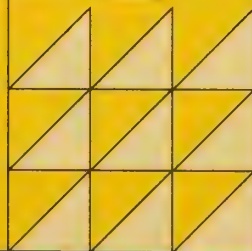
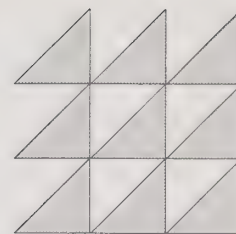


Figure 4-C. Bike Lanes.



Section 5

Environmental Resources



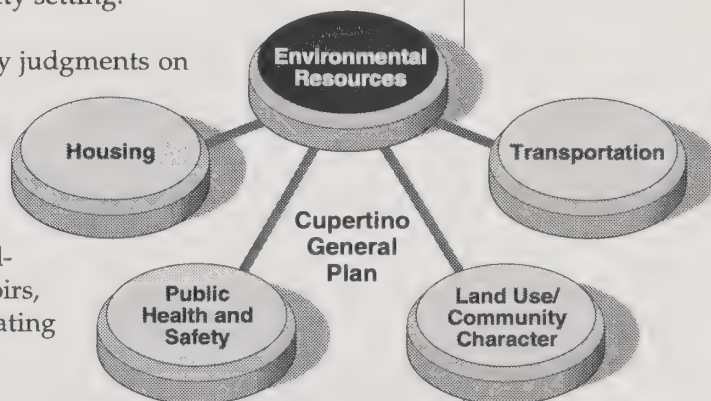
Introduction

Land was once considered solely as a commodity to be bought, sold and developed for the largest private profit with little regard for public cost or environmental harm. The unchecked growth caused by this attitude made urban lands scarce, clogged the streets, polluted the air and water and made it necessary for cities to increase taxes to supply services for inefficiently planned communities. This attitude has changed; people are more aware that the quality of life depends on the community setting.

The General Plan is a tool for making day-to-day judgments on public policies dealing with stewardship of the land.

Open Space Planning

Open space planning includes buying and developing land for parks, protecting watersheds and reservoirs, allowing for farming in or next to urban areas and creating opportunity for privately owned recreational sites.



Conservation Planning

Conservation means responsible human coexistence with plants and animals, responsible mineral extraction and preservation of ground water recharge areas.

Conservation and Management of Resources

Conservation is a creative opportunity to use wisely the resources needed now and to be sure these resources are available for future generations. This element inventories Cupertino's key resources and outlines policies for their use and preservation.

The California Environmental Quality Act (CEQA) requires a comprehensive review of any development that might harm the environment. The General Plan includes much of the analysis and mitigation policies required under CEQA. This makes project-by-project environmental impact reports unnecessary in many cases. CEQA suggests using general plan conservation elements as reference documents in judging the effect of a proposed development on the community and in creating developments that fit the environmental needs of their surroundings.

Agricultural Lands

AVOID THE PREMATURE CONVERSION OF AGRICULTURAL LANDS TO URBAN USES WITHIN THE CITY'S URBAN SERVICE AREA.

Cupertino, like the rest of Santa Clara County, has one of the best growing climates in the state, but farming here cannot compete with other California cities because labor and



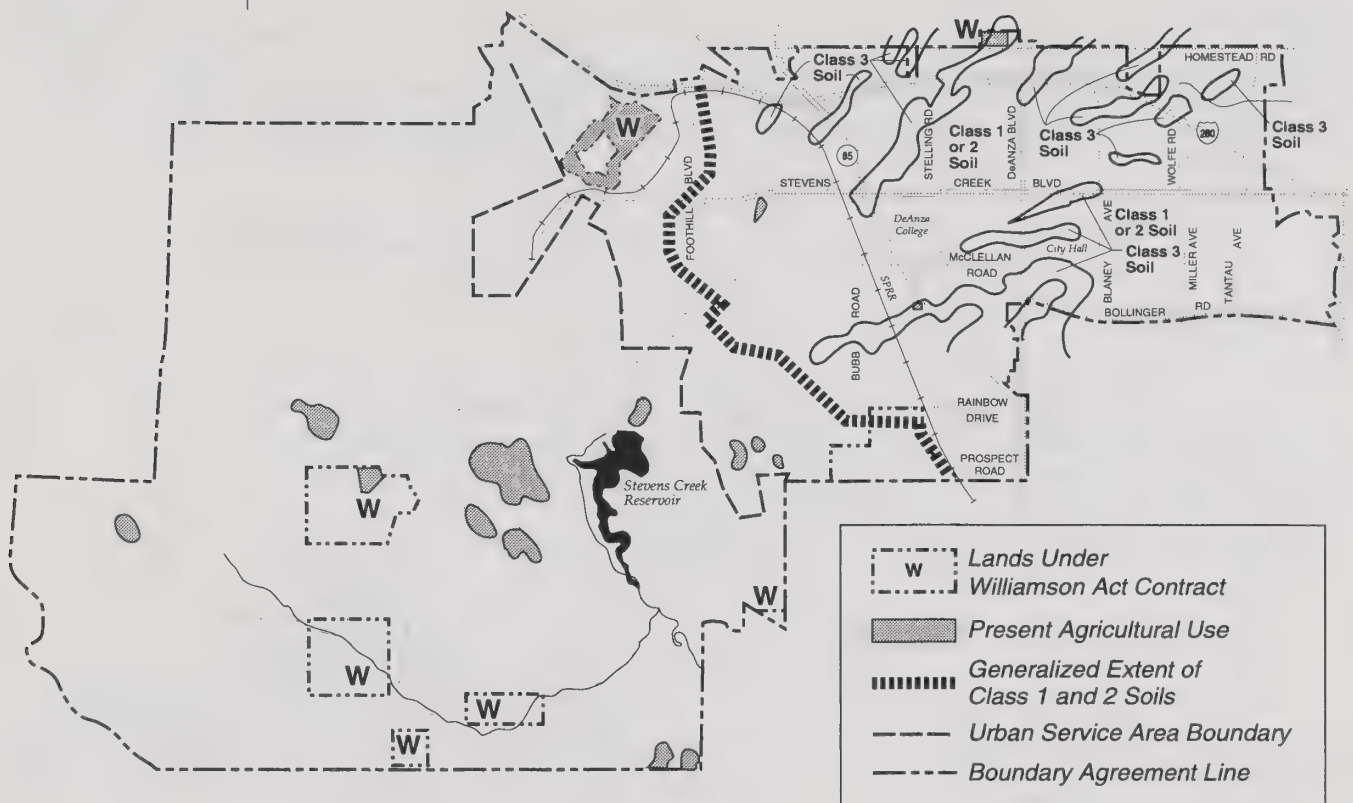


Figure 5-A. Agricultural Uses

water costs are higher and production efficiency is lower. Even flower growers, who have been successful until recently, have suffered declines because of Latin American competition. In 1990, the amount of farmland in Cupertino's urban service area was negligible.

The City has signed Williamson Act contracts with three property owners in Cupertino (Figure 5-A). The act, also known as the California Land Conservation Act, protects farmland and grazing land from taxation as developable property. Two of the properties are still pressured for more intensive development and probably will not remain as farms/grazing land much longer. The Williamson Act has had little effect in preserving prime growing lands over the longer term in Cupertino.

Policy 5-1: Williamson Act Properties

Designate properties under the Williamson Act contracts in the General Plan for their anticipated developed use to plan for future public service and utility demands and to ensure that development will be consistent with community character.

Policy 5-2: Agricultural Recognition

Recognize and support agricultural land uses, which provide food and fiber, enhance air quality and visually and functionally define rural/open areas from urban land uses during public land use and urban development review processes.

Cupertino's historical farm and orchard will continue to serve schools and youth service organizations as a field trip site. Cupertino will set aside community vegetable gardens in parks that have a rural flavor and will offer gardening classes through the Recreation Department.

■ *Policy 5-3: Farming and Grazing*

Maintain farming and grazing on the hillsides to preserve open space and monitor to prevent erosion.

Air Quality

B STRIVE TO MAINTAIN ACCEPTABLE AIR QUALITY LEVELS FOR THE CITIZENS OF CUPERTINO.

C UTILIZE LOCAL PLANNING EFFORTS TO IMPROVE AIR QUALITY REGION WIDE.

Clean air is a natural resource of vital importance. Pollutants in the air can cause health problems, especially for children, the elderly and people with heart or lung problems. Healthy adults may experience symptoms during periods of intense exercise. Pollutants can also cause damage to vegetation, animals and property.

The Federal and State Clean Air Acts are the primary regulators of air quality, but day-to-day responsibilities fall under the regional Bay Area Air Quality Management District (BAAQMD). State and Federal Clean Air Standards are exceeded in Santa Clara County many times a year.

Air pollution potential is based upon the tendency for high pollutant concentrations to develop at a given location. This potential is dependent upon the amount of pollutants emitted into the air and the local atmosphere's ability to transport and dilute the pollutant. The county's topography, prevailing wind pattern and frequent air inversions combine to catch and hold the pollutants that the urban area releases daily into the air. Air pollution is composed of a vast assortment of gases and particles which can be grouped in three categories: ozone, carbon monoxide and particulate matter. A large proportion of air pollution in Santa Clara County is automobile related.

The existing development pattern, countywide, contributes to the further deterioration of air quality. For example, the majority of affordable housing for low to moderate employees is on the outskirts of the county or in adjoining cities. This requires employees to commute long distances daily to and from work which in turn increases air pollution countywide. Also, much of the citywide residential areas are separated from commercial uses, which in turn requires residents to drive vehicles to complete errands. This tends to increase air pollution within the community. Land use planning is beginning to change with these considerations in mind.

As Santa Clara County continues to be the population and employment growth center of the region, residents, employers and municipalities must take responsibility for the impacts of air pollution on the quality of life.

GOAL

GOAL

PRINCIPAL POLLUTANTS OF THE AIR BASIN

Particulate Matter Particles enter the air when the wind erodes the earth, when minerals are quarried, when soil is graded for construction, and when automobiles operate. Airborne particles can be inhaled by people. Larger particles are rapidly expelled by the natural defenses of the human body, but very small particles can remain deep in the lungs for weeks or years. Some airborne particles are toxic in themselves or become toxic when they combine with other air products.

Fine particles in the air are major culprits in the low atmospheric visibility typical of the valley. The particulates have major health effects and have been linked to high rates of lung cancer in polluted urban areas. Between 1983-1990 the Federal Air Quality Standards were exceeded three days and the State Air Quality Standard were exceeded 177 days out of the eight years in the Bay Area. An example of a major contributor to Cupertino particulate pollution the Kaiser Aluminum and Chemical Corporation and Kaiser Cement and Gypsum Corporation. This plant alone emitted, in 1990, 250 tons per year of particles into the air.

Carbon Monoxide About 90 percent of carbon monoxide pollution comes from motor vehicles. Carbon monoxide, a product of incomplete combustion, displaces oxygen in human blood, diminishing people's ability to perform mentally and physically. Higher concentrations follow highway patterns and are related to traffic speed and congestion.

Because the gas is mostly from cars and trucks, it tends to concentrate near major roads, particularly in the congested morning and evening hours. Regionwide, between 1987-1989, the number of days carbon monoxide exceeded both State and Federal maximums was significant. During 1990, the number of days decreased. Because the Bay Area cannot attain the Federal or State Standards, it has been designated as a "non-attainment area" and a plan of control is required.

Ozone Unlike other pollutants, ozone is not emitted into the atmosphere. Rather, it is created from ozone precursors which are nitrogen oxides and hydrocarbons that emanate from combustion, factories and automobiles and from the evaporation of solvents and fuels. State and Federal ozone limits have been exceeded fewer times in the last decade, with 53 State and 21 Federal air quality warnings in 1983, compared to 14 State and 2 Federal warnings in 1990.

Regional, State and Federal Planning Air Quality Standards are set forth by both the State and Federal government. The BAAQMD has the responsibility to monitor and enforce State Standards in the Bay Area. Planning for compliance with the Federal Air Quality Standards has been assumed in part by the Association of Bay Area Governments (ABAG) which, with the BAAQMD, prepared the Air Quality Management Plan for the San Francisco Bay Region. Among the actions recommended by this plan are many policies and programs which local governments can undertake to help achieve the essential improvements in air quality.

The California Clean Air Act of 1988 requires a 1991 plan to meet State Ambient Air Quality Standards for ozone and carbon monoxide by the earliest practical date. The Act requires regions to seek a 5% per year reduction in pollutant emissions by implementing all feasible emission reduction measures. The Clean Air Plan, prepared by the BAAQMD, ABAG and the Metropolitan Transportation Commission (MTC), was adopted in October 1991. State emission standards are more restrictive than Federal standards and therefore, this plan is expected to also satisfy federal requirements.

Air pollutant emission reductions will come from new motor vehicle emissions standards, enhanced inspection/maintenance, tighter controls on new and existing stationary pollution sources and transportation control measures.

Responsibilities of the City While air quality is often regarded as a regional problem, it is fundamental that local land use and growth decisions attempt to combat air pollution. The land use, transportation, energy and environmental policies that comprise this plan will all act in combination to meet the State Air Quality reduction plans.

Air Quality Policies The Plan's Circulation Element encourages alternative modes of transportation to reduce traffic on major streets, making commuter trips more efficient. It also encourages protection of residential neighborhoods from through commute traffic.

Increasing the efficiency of traffic flow will decrease congestion and air pollution. Using traffic management devices such as diverters, circuitous road systems and stop signs to discourage commute traffic in residential neighborhoods will hurt air quality by making trips longer. The Stevens Creek Boulevard Plan Line/General Plan Study demonstrated that improving the boulevard would decrease congestion and pollutants. It also showed that a diverter system on Byrne Avenue and Orange Avenue would make trips longer, increasing neighborhood air pollution.

Cupertino discourages drive-up windows. On a small scale, this does not improve air quality much. But, depending on the design of the window, customers waiting in line with their engines idling could be exposed to high levels of carbon monoxide and other pollution, endangering people who have cardiovascular or lung disease. Handicapped people and parents who do not want to take children into a bank or restaurant will be inconvenienced, but the City's policy of removing barriers to the handicapped should help.

Policy 5-4: Air Pollution Effects

Continue to assess air pollution effects of future land use and circulation planning. Review projects for toxic air contaminants at time of approval.

Policy 5-5: Dust Control

Continue to require the use of water or oil to control dust during construction activities.

Policy 5-6: Clean Air Education

Initiate a citywide public education program regarding the implications of the Clean Air Act and provide information on ways to control emissions.

Policy 5-7: Regional Cooperation

Actively pursue cooperation among regional agencies to improve air quality.

Policy 5-8: Land Use Decisions

Ensure that local land use decisions support the goal of clean air.

SEE POLICY 4-9

■ *Policy 5-9: Home Occupations*

Continue to allow home occupations in all residentially zoned properties.

■ *Policy 5-10: Street Trees*

Increase street trees on public property and tree planting on private property.

■ *Policy 5-11: Fuel-Efficient Vehicles*

Look into buying more fuel-efficient vehicles for City use.

■ *Policy 5-12: Jogging and Bicycling Warnings*

Use the Cupertino Scene and other publications to tell residents about the danger of inhaling pollutants while jogging and bicycling near busy streets. Expand the par course and jogging trails to meet demand.

Wildlife and Vegetation

D PRESERVE AND PROTECT SPECIAL AREAS OF NATURAL VEGETATION AND WILDLIFE HABITATION AS INTEGRAL PARTS OF THE ENVIRONMENT.



Cupertino's wildlife and natural vegetation resources are concentrated in the relatively undeveloped western foothills and mountains and along Stevens Creek, not on the valley floor (Figure 5-B). Urbanization of the valley floor has rendered this environment ill-suited to the needs of wildlife and native plants. Most of the native vegetation was removed by historic agricultural activities and the introduction of non-native grasses and crops. Native vegetation was further reduced by the more recent construction of homes, businesses, industries and infrastructure that supports this suburban community. The loss of vegetation also meant a concomitant loss of wildlife habitat which provided food, cover and shelter for numerous wildlife species.

STREAMSIDES

Riparian vegetation grows along stream courses where there is fertile soil and ample water. It often appears as a distinct band of vegetation when contrasted against other uses. Such vegetation can be found along Stevens Creek, Permanente Creek, Regnart Creek, Heney Creek and portions of Calabazas Creek. Common plants include willow, California bay, California buckeye, Coast live oak, coyote brush, poison oak and California blackberry. Riparian habitats are considered among the most valuable habitats for wildlife because of the presence of water, lush vegetation and high insect populations. Less disturbed riparian areas support a wide variety of wildlife, including amphibian, reptile, bird and mammal species.

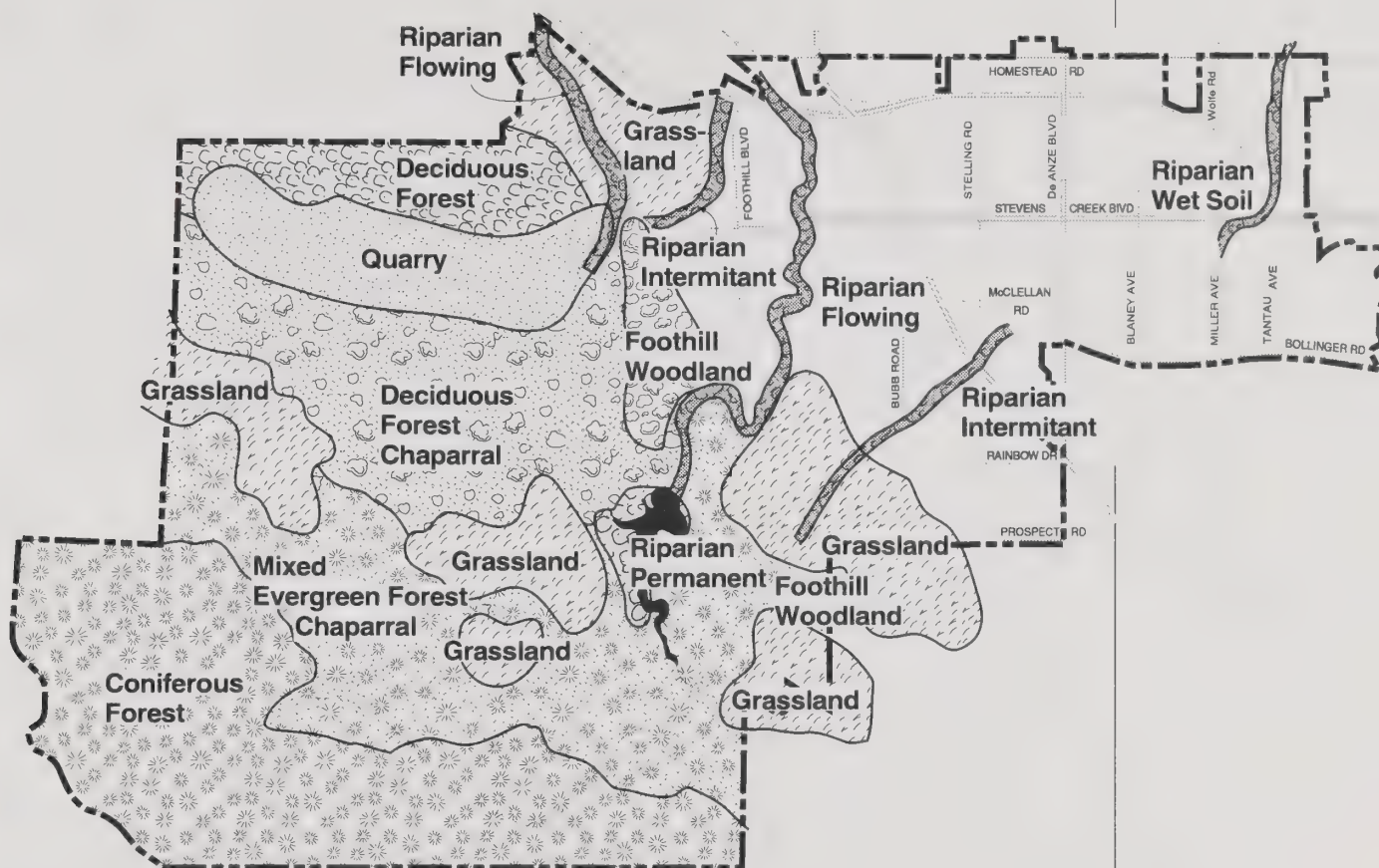


Figure 5-B. Vegetation Resources

GRASSLANDS

Grassland habitats occur on the lower slopes of the western foothills and at scattered locations at higher elevations in the Montebello Ridge system. Much of these areas were formerly used for pasture and are largely composed of non-native grasses. Plant species occurring in this habitat include wild oat, clover, rye grass and vetch. During the spring season, displays of wildflowers are expected which may include California poppy, plantago and owl's clover.

Reptile and mammal species adapted to dry conditions are common in this habitat. They include the western fence lizard, western rattlesnake and common king snake. Mammals include a variety of burrowing rodents, such as meadow mice and California ground squirrel.

BRUSHLANDS

Brushlands are a scrubby, dense vegetation type that often integrates with woodland habitat. This vegetation is often found on dry, rocky, steep slopes. Dominant plant species include: coyote brush, poison oak, California sage and ceanothus. Common animal species include: scrub jay, California quail and deer mouse. Mule deer, brush rabbit, bobcat and coyote utilize brushlands as part of a larger home range.

FOOTHILL WOODLANDS AND FORESTS

Characteristic of the woodland vegetation are scattered oak trees with an undergrowth in some areas of plants and low shrubs. Higher elevations in the Montebello Foothills include mixed hardwood trees and evergreens, including redwoods. Woodlands benefit wildlife as a food source, and as shelter, nesting or cover; they help control erosion from foothill drainage basins; they reduce wind speeds, increasing the oxygen in the atmosphere and neutralizing certain air pollutants.

Woodlands provide visual relief from the urbanized valley floor. The Montebello Ridge system's extensive tree cover gives seasonal color variation, variety of shape and definition of hillside contours. Insect or seed eating birds and mammals are common in the woodlands and are preyed upon by raptors and owls that also inhabit these areas. The larger mammals, deer, coyote, etc., utilize these areas as well.

IMPACTS AND MITIGATION

Human activity, particularly urban development and resource extraction, is the most destructive influence on plants and animals in Cupertino. Urbanization of mountain lands and construction of new housing next to streambeds will likely destroy vegetation. Grading for roads and building sites and leveling for septic tank drain fields also destroys vegetation and creates potential for soil erosion. Fire also threatens vegetation and the animals that depend on it for food and shelter.

Fire suppression is a mixed blessing to the natural environment. It maintains the scenic beauty of the wildlands, protects life and property, and, at least on the surface, enhances wildlife habitat. But, wildfires also are a natural phenomenon. Some local mountain plant species rely on periodic, low-intensity fires to germinate seeds and cut down competing plants. Wildlife forced out by fire may be able to survive if there is a suitable environment nearby. But if development and other human changes of the environment make a new home for wildlife impossible, certain animals may be forced out of the urban fringe or out of Cupertino's planning area altogether.

These policies will protect animal and plant life in Cupertino's planning area.

■ *Policy 5-13: Public Project Landscaping*

Encourage public and quasi-public agencies to landscape their city area projects near native vegetation with appropriate native plants.

■ *Policy 5-14: Development Near Sensitive Areas*

Encourage the clustering of new development away from sensitive areas such as riparian corridors, wildlife habitat and corridors, public open space preserves and ridgelines.

Strategy

Consider specific protection tools for riparian corridor protection, such as a riparian corridor ordinance or development and preservation guidelines.

SEE MUNICIPAL
CODE CHAPTER 14.15

SEE POLICY 2-47

Policy 5-15: Landscaping Near Natural Vegetation

Emphasize drought tolerant native plants and ground covers when landscaping properties near natural vegetation, particularly for control of erosion from disturbance to natural terrain.

SEE MUNICIPAL
CODE CHAPTER 14.15

Policy 5-16: Natural Area Protection

Minimize lawn area and maximize the number of native trees.

SEE POLICY 2-54

Strategy

Amend the RHS ordinance to emphasize drought tolerant native plants and native trees and to minimize lawn area.

Policy 5-17: Hillside Property Fencing

Confine fencing on hillside property to the area around a building, rather than around an entire site, to allow for migration of wild animals.

SEE MUNICIPAL
CODE CHAPTER
19.40.060

Policy 5-18: Recreation in Natural Areas

Limit recreation in natural areas to activities compatible with preserving natural vegetation, such as hiking, horseback riding and camping.

Policy 5-19: Public Access

Provide public access to wildlife observation and fishing sites consistent with preserving important wildlife habitat.

Policy 5-20: Recreation and Wildlife Trails

Provide open space linkages within and between properties for both recreational and wildlife activities, most specifically for the benefit of wildlife which is threatened, endangered or designated as species of special concern.

SEE POLICY 5-42

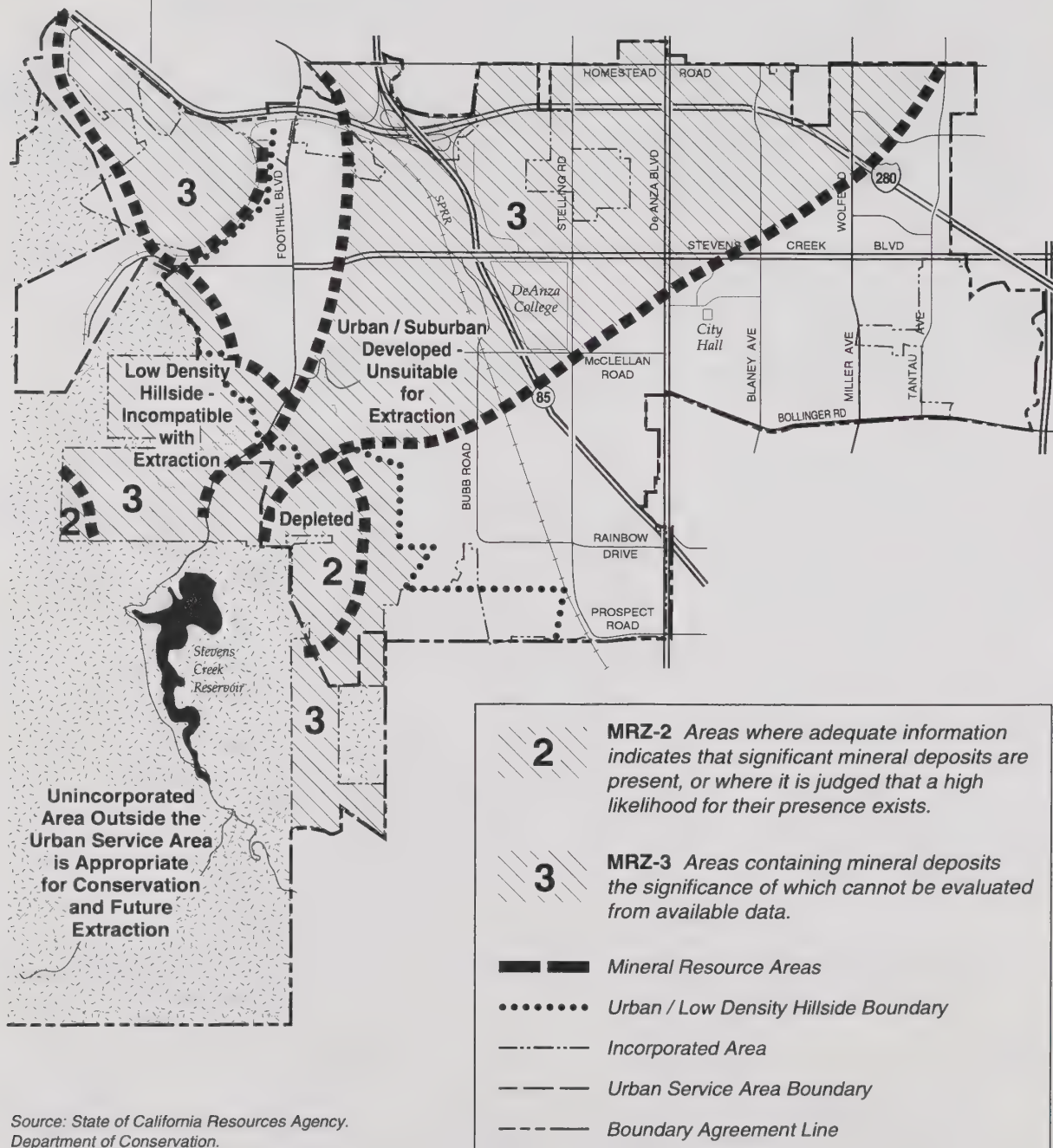
Strategy

Amend the RHS ordinance to require identification of creeks and water courses on site plans and require that they be protected from adjacent development. The ordinance could state that trail easements for trail linkages may be required if analysis determines that they are needed.

REFER TO MUNICIPAL
CODE CHAPTER 19.40

Mineral Resources

The State of California, recognizing the value of preserving the State's mineral deposits, enacted the Surface Mining and Reclamation Act of 1975 (SMARA). The objective of SMARA is to assist local governments in conserving mineral deposits for future use. The State identifies mineral resource areas and requires that jurisdictions recognize them and emphasize conservation and development of these areas. These mineral resource areas are shown in Figure 5-C.



Source: State of California Resources Agency.
Department of Conservation.

Figure 5-C. Mineral Resource Areas in Cupertino.

There are mineral resource areas in the City's boundary agreement areas and in the City limits. Within Cupertino's boundary agreement areas there are two quarries, Permanente and Stevens Creek, which have been designated by the State as having mineral deposits of regional or state significance. Since the quarries are in the unincorporated area, Santa Clara County has jurisdiction. The County's mineral resource policies are directed toward preserving existing resource areas and, where feasible, designating new areas and expanding existing sites.

Within Cupertino's City limits are classified mineral resource areas for which the State also requires policies supporting preservation and extraction. Most of the areas are already developed into residential and other uses. One area, the "Gravel Pit" is considered depleted. These areas, therefore, would not benefit from conservation. The areas that would benefit from conservation are outside the City limits.

Cupertino's proposed policies recognize the existence and potential of the identified mineral resource areas. However, proposed policies reflect an underlying assumption that quarries should be limited to their existing operations in terms of noise and traffic. For many years, Cupertino residents have expressed concern about quarry pollution, noise and traffic. Cupertino officials have stated at public hearings that operation controls and limits should be set. New areas could be accessed as long as current noise and traffic levels are not exceeded and environmental concerns are met.

Policy 5-21: Mineral Resource Areas

New mineral extraction areas may be considered within Cupertino's sphere of influence, but the cumulative impact of existing and proposed activity should not exceed present operations in terms of noise and traffic. Work with Santa Clara County to assure that mining operations outside the City limits are consistent with the City's General Plan, that restoration plans are adequate, and that mining activity is not extended into undisturbed lands without adequate documentation of economic purpose and environmental impacts and mitigations.

Strategies

1. **Traffic and Noise Studies.** Perform traffic and noise studies if applications for increased mineral extraction activities are proposed.
2. **Joint Study Process.** Establish a joint study process in the sphere of influence and boundary agreement areas with Santa Clara County to reach agreement on future land uses.

SEE POLICY 2-60

Policy 5-22: Mineral Extraction Controls

Control scenic restoration and noise pollution as well as air and water pollution in mineral extraction quarrying, processing and transportation.

Policy 5-23: Incompatible Land Uses

Conserve mineral resource areas outside the City by not allowing incompatible land uses in and around identified mineral resource areas. Uses considered incompatible are high density residential, low density residential with high unit value, public facilities and industrial and commercial uses with intensive impacts.

Policy 5-24: Recreation at Old Quarries

Look into the desirability of designating abandoned quarries for passive recreation to rehabilitate the land.



Water Resources

E PROTECT AND CONSERVE WATER RESOURCES AS THEY ARE VITAL TO THE ENVIRONMENTAL AND ECONOMIC HEALTH OF CUPERTINO.

F STRIVE TO MINIMIZE THE QUANTITY AND IMPROVE THE QUALITY OF STORM WATER RUNOFF CONSISTENT WITH THE PROTECTION OF GROUNDWATER QUALITY AND GROUNDWATER RECHARGE AREAS.

PRESERVATION OF WATERSHEDS

Cupertino has 12 square miles of very productive watershed—hillside land with abundant vegetation and heavy rainfall. This watershed is important to the City and to the county. Grading plans for developments must be prepared to prevent erosion, protecting water quality in the City's drainage basin. Erosion control eliminates siltation, which makes the water cloudy and reduces wildlife populations and streambed groundwater recharge ability.

GROUNDWATER RECHARGE FACILITIES

The groundwater basin is the largest supply of water in Santa Clara County. It has an estimated storage capacity of 1,770,000 acre feet, compared to reservoir capacity of only 160,000 acre feet. The Santa Clara Valley Water District prevents too much water from being drawn out by wells by placing recharge sites, sometimes called percolation ponds, throughout the valley where the geological composition of the soil is suitable. Two of these are located in Cupertino.

■ *Policy 5-25: Ground Water Recharge Sites*

Continue to support the Santa Clara Valley Water District to find and develop groundwater recharge sites within Cupertino's planning area and provide for public recreation at the site where possible.

■ *Policy 5- 26: Other Water Sources*

Encourage the research of other water sources, including water reclamation.

■ *Policy 5-27: Industrial Water Recycling*

Encourage industrial projects, especially at the building permit approval stage, to have long-term conservation measures including recycling equipment for manufacturing and pooling water supplies in the plant. Work with the Cupertino Sanitary District to carry out this policy.

■ *Policy 5-28: Natural Creek Beds*

Retain creek beds, riparian corridors, water courses and associated vegetation in their natural state to protect wildlife habitat and recreation potential and assist groundwater percolation.

SEE POLICY 5-14

OTHER WATER RESOURCES

Cupertino has three major water suppliers: California Water Service, Cupertino Water Utility and San Jose Water Company. A private water service cooperative, the Reglin Mutual Water Company, serves part of Regnart Canyon.

Water comes from two main sources: wells fed by groundwater, and imported water from the Rinconada Treatment Plant. Cupertino gets about 1.6 million gallons a day from the underground sources and about 4.5 million gallons a day from the Rinconada plant. Stevens Creek Reservoir yields about 2,500 acre feet per year to the seasonal run-off from groundwater recharge. The Santa Clara Valley Water District projects the total demand for Cupertino will be about 6.85 million gallons a day by 1995, which could be reduced through conservation.

URBAN WATER CONSERVATION

The Santa Clara Valley experienced a drought from 1988-1990 and additional years of drought are expected. The four water companies within the boundaries of the City enforced water restrictions in response to the Santa Clara Valley Water District's to reduce overall water use by 25% during the high use months. This policy will be periodically reduced or increased based upon water reserves, water usage and rainfall amounts. Ground-water pumping was also restricted because over pumping lowered the water table and ground settlement occurred throughout the Valley. The Santa Clara Valley Water District does not have sufficient allocations from the California Water Project nor the Federal Water Project, so water conservation is of great economic, social and environmental importance.

Citywide, the majority of the water connections and usage is residential. Therefore, the burden of water conservation falls largely on residential users. Even though the number of industrial connections may be less than residential, consumption is high per connection and conservation measures are still warranted.

The Santa Clara Valley Water District indicates it has the ability to meet the long term water needs of Cupertino water retailers. The District Water Supply Master Plan has planned for growth, based upon the maximum growth potential of all municipalities in the District, which does not exceed ABAG's projections.

Policy 5- 29: Interagency Coordination

Actively pursue interagency coordination for regional water supply problem solving.

The California Water Service Company will increase water pressures 10 to 15 pounds per square inch throughout the Cupertino Service area during the 1992 fiscal year. California Water Service will meet the Public Utility Commission minimum water pressure service area wide.

Policy 5- 30: Reglin Water Annexation

Recognize that additional capacity requirements placed on Reglin Mutual Water Company would require that one of the adjoining utility companies annex and service users in the next decade (through year 2001).

Recognize that if annexed by Cupertino Municipal Water Company, an increase in capital improvement projects and required financing would be required to enhance the water supply system.

■ ***Policy 5- 31: Local Conservation Policies Similar to Regionwide Policies***

Continue to keep citywide efforts of water conservation similar to those being conducted on a regional scale. Many of these conservation efforts are outlined in the Santa Clara Valley Water District Drought Plan and Countywide Water Use Reduction program.

■ ***Policy 5- 32: Public Information Effort***

Continue providing the public information regarding the status of the drought and water conservation techniques. Consider sending regular notices to households and businesses on water prohibitions, water allocations and conservation tips. Continue to air conservation videotapes on the City's government channel. Continue to provide water conservation kits to the community upon request.

■ ***Policy 5-33: Prohibit Excessive Water Use***

Prohibit excessive water uses throughout the City, such as irrigation of existing landscaping during the daylight, and require large water users to perform water audits. These and other policies shall be enforced until such time as an official declaration has been made by Santa Clara Valley Water District that the drought conditions no longer exist.

■ ***Policy 5- 34: Water Conservation Program***

Undertake programs for long-term water conservation at City buildings including installation of low flow toilets and installation of automatic shut off valves in sinks of park buildings.

NONPOINT SOURCE POLLUTION

Nonpoint source (NPS) pollution is caused by the accumulated debris and chemicals on streets and pavements which are carried by water runoff into the storm drain system and eventually into South San Francisco Bay. Unlike pollutants that come from a point source, such as a sewer pipe, NPS pollutants are washed from streets, parking lots, neighborhoods, construction sites and other exposed surfaces throughout the City.

While NPS pollutants come from a variety of sources, many of them are familiar to residents because they originate from the home and automobile. NPS pollutants include detergents, paint products, pet wastes, garden pesticides, fertilizers, eroded soils, motor oil and car exhaust. Since the storm drains are separated from the sanitary sewers, pollutants carried by water runoff into the storm drain are not treated and flow directly into the creeks and streams that feed San Francisco Bay.

Previously, it was widely believed that wastewater treatment plants, industries and other "point sources" were the main contributors of contaminants to the Bay. Today, nonpoint sources are recognized as significant contributors to Bay pollution. The concen-

To preserve the well-known beauty of Cupertino's landscaping without excessive demand on limited water supplies, the City requires extensive use of drought-resistant and native plants for proposed non-residential projects as part of the approval process. Cupertino enjoys public and private cooperation in this effort.

SEE MUNICIPAL
CODE CHAPTER 9.18

trations of NPS pollutants can have deleterious effects on aquatic wildlife which include the impairment of growth, reproduction and overall health of sediment-dwelling organisms, fish and other wildlife. Some toxic substances accumulated by aquatic organisms enter the food chain when consumed by larger fish, birds or humans.

GOVERNMENT ACTION

At the instigation of South Bay cities, the Regional Water Quality Control Board and federal mandates have required the protection of San Francisco Bay through the control of nonpoint source pollution. Fifteen Santa Clara County jurisdictions, including Cupertino, that discharge into San Francisco Bay have joined together to develop and implement a Storm Water Management Plan. This association of agencies, known as the Santa Clara Valley Nonpoint Source Pollution Control Program, is continuing to identify feasible solutions to control nonpoint source pollution.

Policy 5-35: Nonpoint Source Pollution

Continue to support and participate in the Santa Clara Valley Nonpoint Source Pollution Control Program in order to cooperatively reduce nonpoint source pollution with other cities that discharge storm waters into San Francisco Bay.

Policy 5-36: Storm Water Runoff

Encourage the reduction of impervious surface areas and investigate opportunities to retain or detain storm runoff on new development.

Policy 5-37: Development on Septic Systems

Do not permit urban development to occur in areas not served by a sanitary sewer system, except the previously approved Regnart Canyon Development.

Energy Conservation

Escalating energy costs and decreasing availability of fuel sources reinforce the need for energy efficiency. Energy conservation is an individual responsibility to some extent and personal efforts may work better and cost less than a complex system of government regulations. This section discusses the energy use problem and gives local conservation policy options.

REGIONAL PERSPECTIVE

In 1972, 19.5 percent of the nation's energy was used for residential and commercial applications; transportation used 24 percent, industry 31 percent, and electrical utilities 24.5 percent. About half of the energy used by households is wasted. Home heating is the largest cause of waste; it uses 65 percent of the residential energy budget and makes up 80 percent of the wasted energy. Water heating takes about 13 percent of the budget, lighting about 10 percent, and cooking and air conditioning five percent each.

In California, 96 percent of homes are heated by gas, the rest by electricity. Very little coal, oil or wood is used for home heating. In 1972, the Bay Area energy was used this way: homes, 17.1 percent; commercial, 6.5 percent; refineries, 18.4 percent; utilities, 15.4 percent; industrial, 10.6 percent; transportation 30.5 percent and miscellaneous, 1.6 percent.

During 1972, 2.8 million cars and light-duty trucks consumed 6,000,000 gallons of gasoline while driving about 76,000,000 miles, taking up about one quarter of the daily energy budget.

In the Santa Clara Valley, the average daily household use is about 15 kilowatts of electricity and about 3.3 therms of natural gas.

In Cupertino, a considerable amount of energy could be saved by making home heating and water heating more efficient or finding alternatives to current processes; making lighting, cooling and cooking more efficient and reducing unnecessary use of automobiles.

The Cupertino Planning Department found that people who live in the flatlands use only about 15 percent of the total energy demand for transportation because they are near major roads, while people who live on hillsides use twice that amount.

■ **Policy 5-38: Public Information**

Continue to act as a liaison between PG&E and the community in providing energy efficiency information.

RESIDENTIAL ENERGY USE MITIGATION MEASURES

1. Types of Construction Single-family detached houses lose more heat per square foot of floor area than individual dwellings in multiple-family buildings. Less exterior wall area compared to floor area also reduces energy loss. So, a rectangular or L-shaped, one-story house loses the same amount of heat as a two-story square house when both have insulated walls and ceilings. Floor plans with an H-shape or T-shape lose even more heat compared to the square layout.

2. Insulation/Heat Loss Protection Floor, wall and ceiling insulation reduces interior heat loss. A well-insulated house in the Bay Area has little need for air conditioning on most warm days. Insulation designated R-19 in ceilings and walls and R-11 in floors cuts heating and air conditioning costs considerably. These designations are higher than those required under California law.

If the building has perimeter heating ducts under the slab, it will lose even less heat if there is edge insulation.

Insulated thermal windows, storm doors, and sealed fireplace flues further reduce energy loss from inside the building. Light-colored exterior paint makes the indoors cooler as well.

In multiple-family buildings, a heat pump system can provide home heat, water heating and air conditioning using less than half the energy needed to do the same thing with conventional heaters and coolers. Solar heat collection panels can augment the usual pool heating system.

3. Orientation of Buildings Buildings built on hills will need an eave overhang of 24 to 32 inches to shade exposed walls and windows from direct summer sunshine. In the winter, the sun's lower path through the sky allows some rays to penetrate under the eaves to supply some heat.

It is best to use more windows in walls that face southeast, south and southwest and to shade them with trees, shrubs, awnings or eaves to reduce summer heat gain. Planting evergreen trees near north-facing walls reduces wind. Leafy trees shade the south walls in the summer and allow solar heat gain when they shed their leaves in winter. Shrubs, trellises, and hedges should provide natural wind breaks for building entrances. Air conditioner condensers must be shaded and have plenty of natural ventilation to increase compressor efficiency and reduce energy use.

TRANSPORTATION ENERGY CONSERVATION PRACTICES

People rely on their cars in the Santa Clara Valley, and these cars are a principal source of pollution. They inefficiently consume vast amounts of gasoline, the materials needed to build them and the roads they run on.

Cupertino provides incentives to use alternative transportation. Major industrial development approvals have required experimental employee van pooling. A major bus system transfer facility is planned for Vallco Shopping Center to encourage commute trips.

Recognizing that people will probably prefer to use their cars for transportation for many years to come, the City Council approved construction of an electronic traffic signal interconnect system for the major commute boulevards. This system will ease traffic and reduce the number of stops through flexible and sensitive signal control over a longer portion of the commute path. If this system functions correctly, air quality, gasoline economy and vehicle operation cost will improve.

Open Space Resources

G PRESERVE AND ACQUIRE OPEN SPACE LANDS FOR THE PRESERVATION OF NATURAL RESOURCES, THE MANAGED PRODUCTION OF RESOURCES, FOR OUTDOOR RECREATION AND FOR PUBLIC HEALTH AND SAFETY.



PUBLIC OPEN SPACE MANAGEMENT

Several public agencies share the task of acquiring, maintaining, accessing and developing open space lands for the enjoyment of residents of Cupertino and its neighboring cities. Some of these public open space lands provide high or low-intensity recreation; some emphasize scenic beauty; others preserve vegetation or wildlife habitats; still others help control urban sprawl.

MIDPENINSULA REGIONAL OPEN SPACE DISTRICT

The District, created in 1972 by the County electorate, has as its major goal preserving undisturbed, unique and sensitive wildland habitat by carefully controlling access. District lands in Cupertino are designated for low-intensity use to give long-term protection from encroaching urbanization. These lands were acquired according to four principal criteria: scenic preservation, preservation of unique sites, the guidance of urban form, and low in-

tensity recreational opportunities. Guidance of urban form requires cooperation and coordination with Cupertino's planning efforts. Consequently, the Cupertino City Council and the District Board agreed to a review procedure in 1976 of District purchases in Cupertino's planning area. The informal agreement provides for City review of potential purchases within the planning area and no review of acquisitions outside the planning area.

SANTA CLARA COUNTY

Most of the hillsides in Cupertino's planning area are unincorporated and undeveloped, so Santa Clara County's hillside policies and ordinances dictate their final land use. The County's General Plan calls for the hillside area to be preserved in an open condition with uses that support and enhance the rural character, which protect and promote wise use of natural resources, and which avoid or reduce the risks imposed by natural hazards found in these areas. Allowed uses include very low density residential development, mineral extraction, agriculture, grazing and wildlife refuges, among others. The number of houses allowed to be built is controlled by a slope density formula which ranges from 20-160 acre minimum parcel sizes increasing with the steepness of the slope. The theoretical maximum number of houses ranges from 115 to 190.

Cupertino expects that the Board of Supervisors will amend the Montebello Plan to reflect the more restrictive limitations and the City Plan will be amended accordingly.

SANTA CLARA COUNTY PARKS PROGRAM

This program operates on a voter approved measure in which a fixed portion of the property taxes are set aside from the General Funds for parks to acquire and develop a regional park system. It emphasizes completing Upper Stevens Creek Park and its connection to Stevens Creek. Because the upper portions of Stevens Canyon are environmentally sensitive, the County Parks and Recreation Department has made a commitment to connect these two parks. Currently, the County is preparing a master plan for lower Stevens Creek Park.

Policy 5-39: Stevens Creek Park

The Santa Clara County Parks program should pursue the goal of connecting upper and lower Stevens Creek Parks. The County parks budget should pursue acquisition to the extent possible, and emphasize passive park development in keeping with the pristine nature of the hillsides.

SANTA CLARA VALLEY WATER DISTRICT

The District can continue to help Cupertino carry out its open space policies. It helped Cupertino prepare its natural flood plain policy for the reach of Stevens Creek between Stevens Creek Boulevard and the reservoir and directly helped to buy open space lands within McClellan Ranch Park. It also created a Flood Protection Program for that reach of Stevens Creek next to the Creston and Oakdell Ranch neighborhoods. The District upgraded Stevens Creek Reservoir in 1986 and it is being refilled to full capacity as weather permits.

Policy 5-40: Stevens Creek Reservoir

Work to keep the watershed and storage basin properties of Stevens Creek Reservoir in public ownership if the Santa Clara Valley Water District decides to abandon it.



Open Space Policies and Programs

Cupertino's main role in open space planning is in developing neighborhood parks. The City has policies that encourage the Midpeninsula Regional Open Space District and the County Park System to complete phases of their programs and to buy certain properties it feels need to be owned by the public but still kept undisturbed. The City recognizes that fiscal constraints on regional, as well as local, park financing will affect park acquisition programs.

Figure 5-D identifies these properties. Cupertino intends to create a continuous open space green belt next to its planning area.

Policy 5-41: Continuous Open Space

Actively pursue inter-agency cooperation in buying properties near the western planning area boundary to complete a continuous open space green belt along the lower foothills, with a special focus on purchase of the Diocese property.

STEVENS CREEK

The Stevens Creek Flood Plain is Cupertino's most prominent urban open space resource. The land is designated for recreation and farming, with adjoining properties set aside for low-density residential use.

Since the late 1950s, many jurisdictions have advocated a formal urban trail following Stevens Creek, extending from the San Francisco Bay to the Pacific Ocean. Cupertino's 1964 and 1972 plans proposed an ambitious plan to buy lands for this purpose. The City's acquisition of Linda Vista Park, McClellan Ranch Park, Simms Property and Blackberry Farm supported this plan.

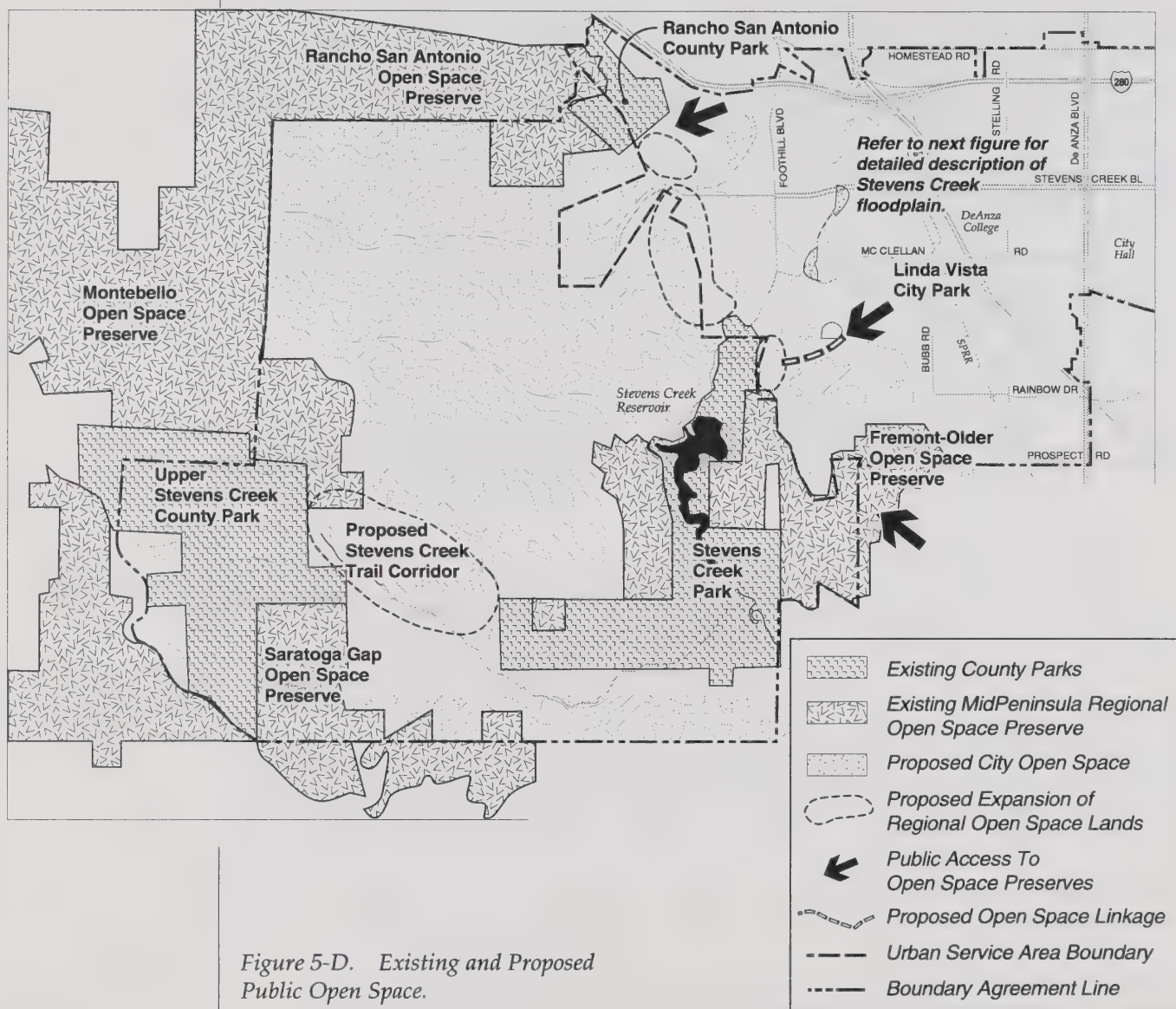


Figure 5-D. Existing and Proposed Public Open Space.

The barrier caused by Interstate 280 along with the encroachment of residential development, breaks the continuity of the ocean-to-bay trail system. So, there will most probably be urban links connecting the trail from Homestead Road to Blackberry Farm by way of Foothill Boulevard and Stevens Canyon Road.

The Stevens Creek Trail Plan retains the open space character of the Stevens Creek Flood Plain between the reservoir and Stevens Creek Boulevard and may offer historical significance relating to the Juan Bautista De Anza Trail designation.

One land purchase is proposed to help preserve the open space of the flood plain. The Stockmeir property is uniquely suited to be a joint open space and historic preservation site. A decision on buying the property will be triggered either by the owner's request to develop the property or to dedicate it for open space or by a direct request of the community. If the community found that it would be too expensive to buy the property or cost too much to maintain it over a long period, the property would remain in private hands. Since most of

the property is in the natural flood plain, its residential development potential is limited to a small area around the existing homesite that is outside the natural flood plain. The open space acquisition and public trail easement through the 150-acre Kaiser property south of Linda Vista Park will come about when the property is proposed for development and City review begins.

Policy 5-42: Open Space and Trail Linkages

Work to provide the open space lands and trail linkages described in Figures 5-D,E,F.

Strategy

Develop a City trail plan which links major employment centers, the Heart of the City and major open space areas.



SEE POLICIES 4-10
AND 5-20

PRIVATE OPEN SPACE RESOURCES

There are several private open space and recreational activity businesses in Cupertino's planning area, including golf courses, riding stables and clubs offering tennis and swimming. They are valuable to the community because they provide services that are not traditionally provided by the public sector on City or regional parklands. Land use controls and incentives should be incorporated into public policy so these operations can continue. Utility system power line corridors in the City's foothills are another category of privately controlled open space. Deer and other animals use these as migration paths.

Policy 5-43: Private Open Space and Recreational Facilities

Encourage the continued existence and profitability of private open space and recreation facilities through incentive and development controls.

SEE MUNICIPAL
CODE, SECTION 19.72

Policy 5-44: Public Use of Private Open Space

Seek cooperation from private land owners for public use of private open space.

NEIGHBORHOOD OPEN SPACE PROGRAM

Cupertino's neighborhood parks system serves the active and passive recreation needs of its residents. Table 5-A lists the park and recreation acreage by neighborhood.

The City of Cupertino recognizes that a well-managed open space and park system enhances the quality of life for its citizens. The existence of open space provides a visual break from development, and park facilities provide people with the opportunity and encouragement to pursue recreational activities improving both their physical and mental well being.

Changing economic conditions have created a need for new approaches to the acquisition of open space. Escalating land costs and reductions in local funding mean the City needs to identify alternatives to the traditional purchase of park land, such as long-term joint-use agreements and development dedications.

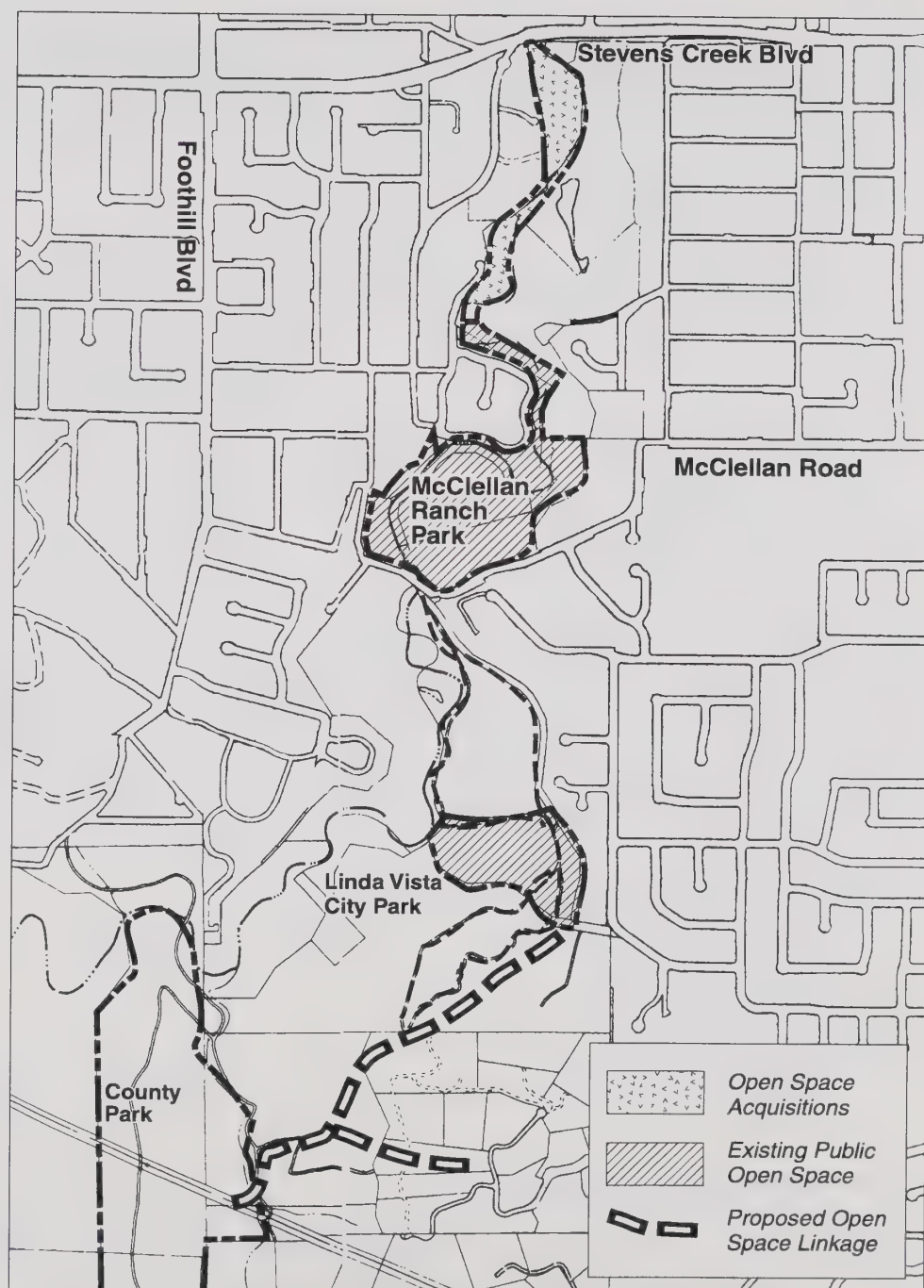


Figure 5-E. Public Open Space in the Stevens Creek Flood Plain.

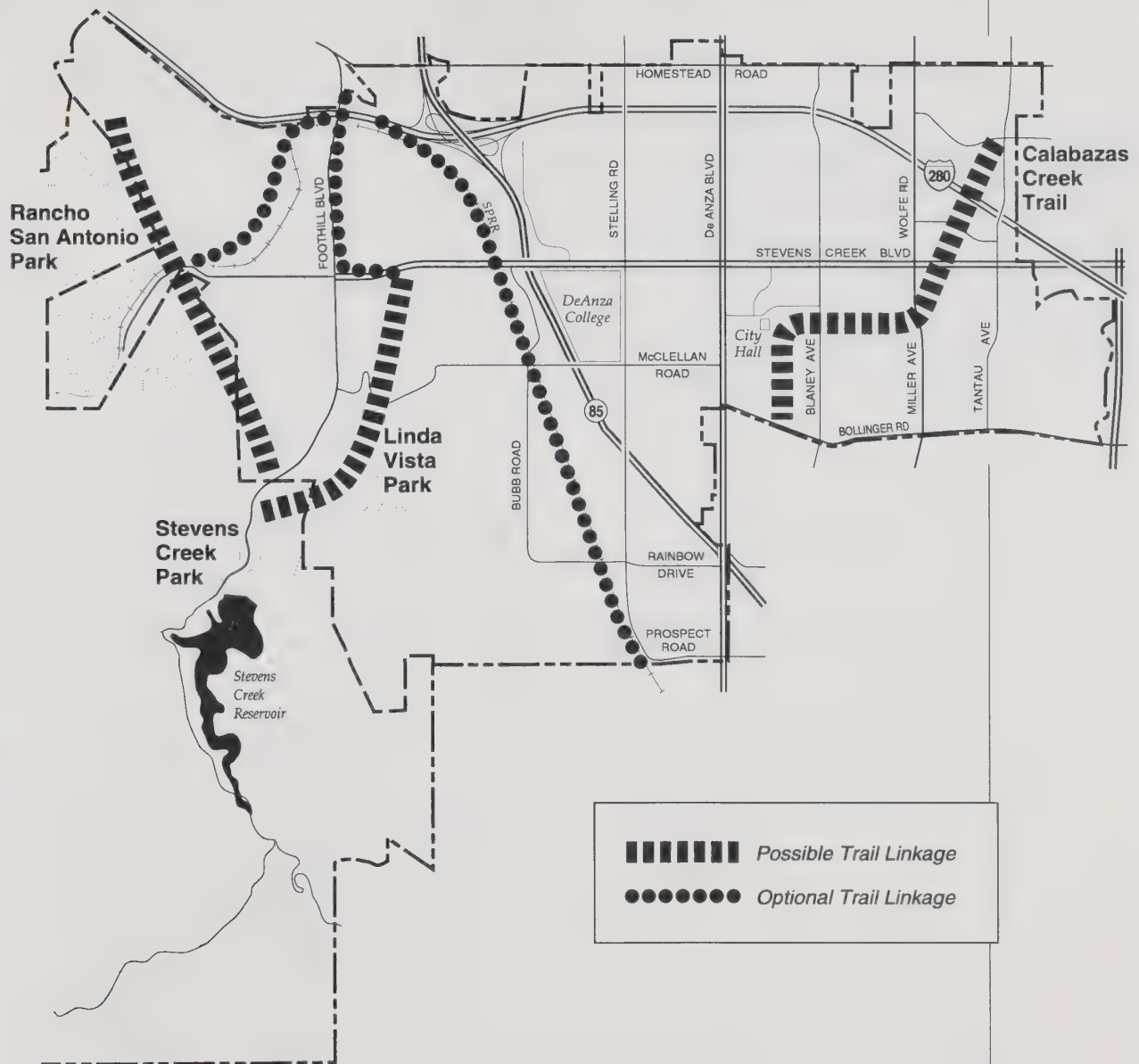


Figure 5-F. Trail Linkages.

Table 5-A. Park and Recreation Acreage by Neighborhood.

Neighborhood	Park	Acreage	School	Acreage
A-1	0		0	
A-2	McClellan Ranch Blackberry Farm*	18.7 33	0	
B	Linda Vista	11	Monta Vista HS Kennedy Jr. HS Lincoln Elem. Regnart Elem	10 16.6 3.29 3.81
C	0		0	
E-1	Varian	6.3	Stevens Creek Elem.	3.1
E-2	Monta Vista	6.2	0	
F-1	0		Homestead HS	10
F-2	Memorial	27.8	Garden Gate Elem.	3.13
G	Somerset Square	1.7	0	
H-1	0		Faria Elem.	4.19
H-2	Jollyman	12	0	
I-1	Wilson	10.4	Eaton Elem.	5.98
I-2	Fremont Older	11.8		
J-1	0		Cupertino HS	10
J-2	0		Hyde Jr. HS Sedgewick Elem.	7.75 4
K	0		0	
L-1	0		0	
L-2	Portal	3.8	Collins Elem.* Portal Elem.*	2.92 1.71
M	0		0	
N	0		0	
O	0		0	
P-1	Three Oaks	3.1	0	
P-2	Hoover	5	0	

*Not included in park ratio

In any case, the City of Cupertino shall continue its commitment to a responsive and attractive open space and park system by adhering to the following policies.

Policy 5-45: Park Acreage

Provide park land equal to a minimum of three acres for each 1,000 residents.

Policy 5-46: Park Walking Distance

Ensure that each household is within a half mile walk of the park and that the route is reasonably free of physical barriers, including streets with heavy traffic.

Policy 5-47: Park Minimum Acreage

Plan parks to be at least 3.5 acres for flexibility of use. The acquisition and development of parks less than 3.5 acres may be considered according to the following priorities:

High Priority - Designated neighborhoods which have no park or recreation areas.

Moderate Priority - Designated neighborhoods which have school grounds and no park land.

Low Priority - Designated neighborhoods which have park or recreation areas less than three acres per 1,000 residents.

Accessibility of residents to parks should be considered in determining priorities.

Policy 5-48: Park Design

Design parks informally to make use flexible and long-term maintenance costs low.

Policy 5-49: Park Street Access

Ensure that parks are bounded by public streets. When possible, re-evaluate parks that meet minimum size requirements to see if it is feasible to install a perimeter road.

Policy 5-50: Neighborhood N

New residential development in Neighborhood N should provide a public neighborhood park based upon the City's park dedication ordinance. Subsequently, the boundaries of neighborhoods N and E1 should be redrawn to reflect the additional park site.



SEE POLICY 6-39

Policy 5-51: Neighborhoods J-1, J-2, K

Make the final determination regarding a neighborhood park site after the completion of Cupertino Union School District's Sedgwick School master plan.

DEFINITION OF NEED

Some sub-neighborhoods are isolated by physical barriers, including land forms, railroad tracks or streets with heavy traffic.

Accessibility is a major consideration in neighborhood parks. Figure 5-H shows the half-mile service area radius for neighborhood parks. The shaded service areas show physical barriers, such as freeways, railroad tracks or stream beds. The diagram does not show streets with heavy traffic. These busy streets may discourage some people, especially young children, from visiting parks. For example, many parents would not allow their pre-school children to cross De Anza Boulevard or Stevens Creek Boulevard alone to go to a park.

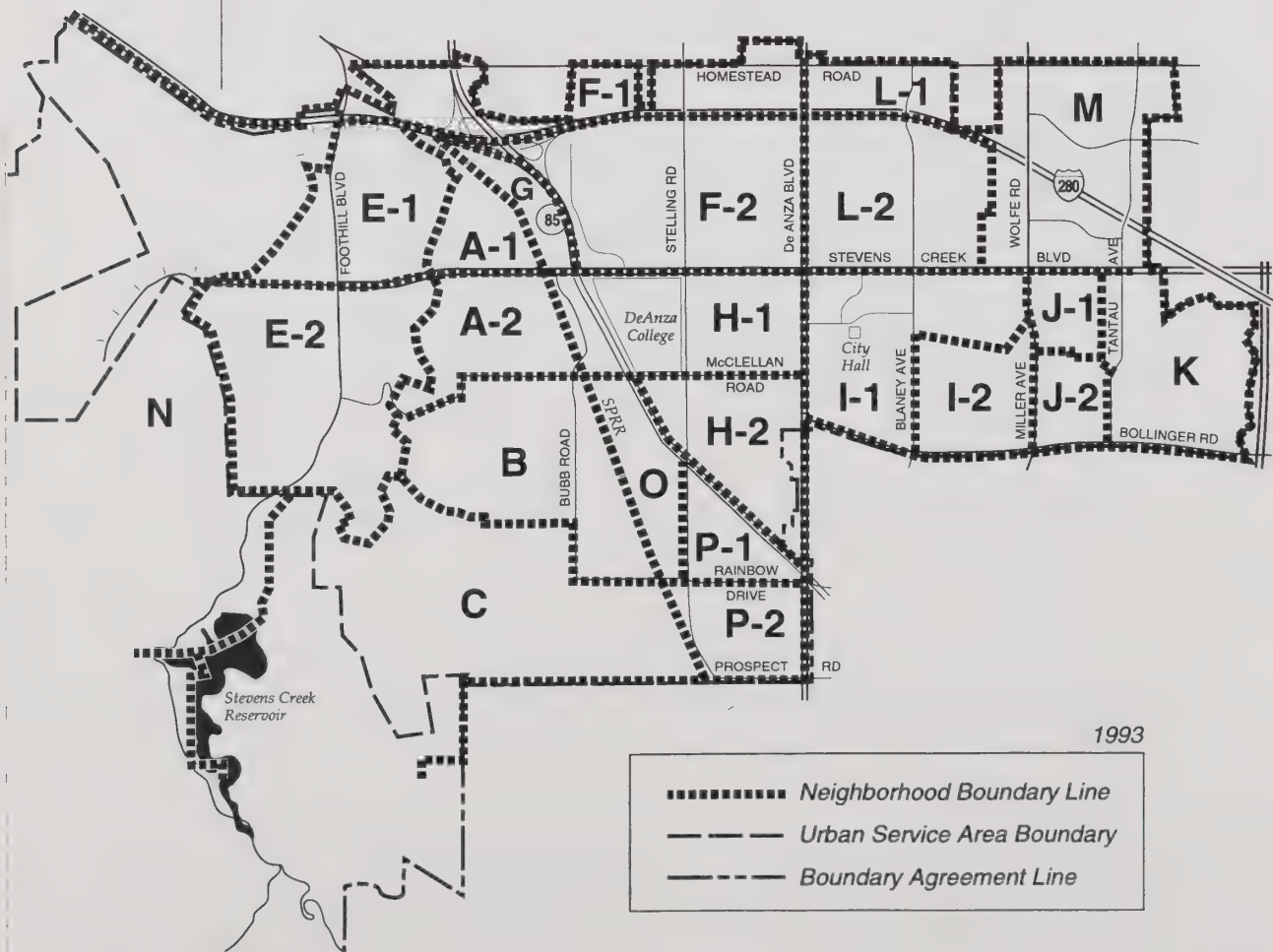


Figure 5-G. Neighborhood Map.

IMPLEMENTATION

Cupertino will not have the money to buy enough park land to meet the minimum standard of three acres for each 1,000 residents in all neighborhoods. Table 5-B shows an acquisition strategy that stretches limited money by using school sites, expanding existing parks and taking advantage of park dedication requirements for major new developments.

Table 5-B. *Proposed Park Land Acquisition Program.*

Park and Recreation Land Needed - Acres/1000 People.

Area	1990 Existing Supply (acres)	1990 Existing		GP Buildout Supply (acres)	Existing GP (Mod)		Proposed GP		Notes
		Demand (acres)	Ratio (ac/1000)		Demand (acres)	Ratio (ac/1000)	Demand (acres)	Ratio (ac/1000)	
A1/E1	9.4	11.22	2.51	9.4	11.31	2.49	11.31	2.49	1
F1/F2	40.93	21.27	5.77	40.93	22.38	5.49	24.21	5.07	
G	1.70	1.95	2.62	1.7	1.97	2.6	1.97	2.6	
N	0	3.21	0	0	4.17	0	4.17	0	
Sub Total	52.03	37.65	4.15	52.03	39.83	3.92	41.66	3.75	
A2/B/C	63.4	17.85	10.66	63.4	19.53	9.74	19.53	9.74	2
E2	6.2	10.38	1.79	11.1	11.01	3.02	11.01	3.02	
H1/H2	16.19	11.55	4.21	16.19	11.91	4.08	14.46	3.36	3
0	0	4.23	0	0	4.41	0	4.41	0	
P1	3.10	3.43	2.72	3.10	3.69	2.52	4.2	2.21	
P2	5	5.16	2.91	5	5.16	2.91	5.61	2.67	
Sub Total	93.89	52.6	5.36	98.79	55.71	5.32	59.22	5.00	
11/12	28.18	17.52	4.83	28.18	18.15	4.66	19.8	4.27	
J1/J2/K	21.75	15.63	4.17	21.75	15.69	4.16	15.69	4.16	
L1/L2	3.8	13.02	.88	3.8	15.78	.72	16.59	.69	
M	0	0	0	0	0	0	3.9	0	
Sub Total	53.73	46.17	3.49	53.73	49.62	3.25	55.98	2.88	
Totals	199.65	136.42	4.4	204.55	145.16	4.23	156.86	3.91	

Notes:

1. Land not available for acquisition in neighborhood G.
2. 4.9 acres (Stockmeir property) of natural open space will be acquired adjacent to Stevens Creek per existing open space plan.
3. Park land in neighborhood 0 will not be acquired because of close proximity to other parks.

Supply Assumptions:

Schools with joint agreement areas and other long range availability of recreation areas are included in the ratios. They are: Stevens Creek, Garden Gate, Lincoln, Faria, Regnart, Eaton, Kennedy, Hyde, Sedgwick, Homestead High School, Monta Vista High School and Cupertino High School, Blackberry Farm is not included because it is a limited purpose facility.

Demand Assumptions:

Based on 2.60 persons per household

Policy 5-52: Park and Open Space Acquisition Program

The City's park acquisition is defined by Table 5-B. The Acquisition Program is based upon three broad acquisition objectives:

1. Complete the Parks Acquisition Program.
2. Maintain an adequate inventory of sports fields.
3. Retain creek site and other natural open space areas identified in the Open Space section of the General Plan.

The plan is a policy document that will be used yearly to help in preparing the updated Capital Improvements Program. The plan is subject to revision depending upon the availability of funds and subsequent actions of the Cupertino Union School District regarding the disposition of surplus school sites.

Policy 5-53: New Residential Development in Non-residential Areas

New residential development in non-residential areas shall provide park and recreational space and facilities. The need for dedication of public park land and the provision of private recreational space and facilities shall be determined when a master plan is submitted for the development, based on the following criteria:

1. Where feasible, public park space as opposed to private should be provided. Active park areas are encouraged which will serve the community need. Passive areas are acceptable, when appropriate to an urban setting. Features could include paths, benches, water features, picnic tables, public art, trees and gardens. They should be oriented toward the street or an activity area where it is easily accessible to the public. Passive areas deemed inaccessible or unlikely to be used by the public should not be credited toward park dedication. Providing public trail connections may be given partial credit toward park dedication.
2. New residential developments should be encouraged to blend their recreational facilities into the community at large.
3. Park fees should be collected based on a formula which considers the extent to which the public and/or private park space and facilities meet the park need.

Policy 5-54: Recreational Facilities

The City of Cupertino recognizes the public benefit derived from a recreational gymnasium and swimming pool and should such a facility be developed, the City shall pursue all possible partnerships, including school districts, non-profit organizations and the corporate community, as a means of funding and operating the facilities.

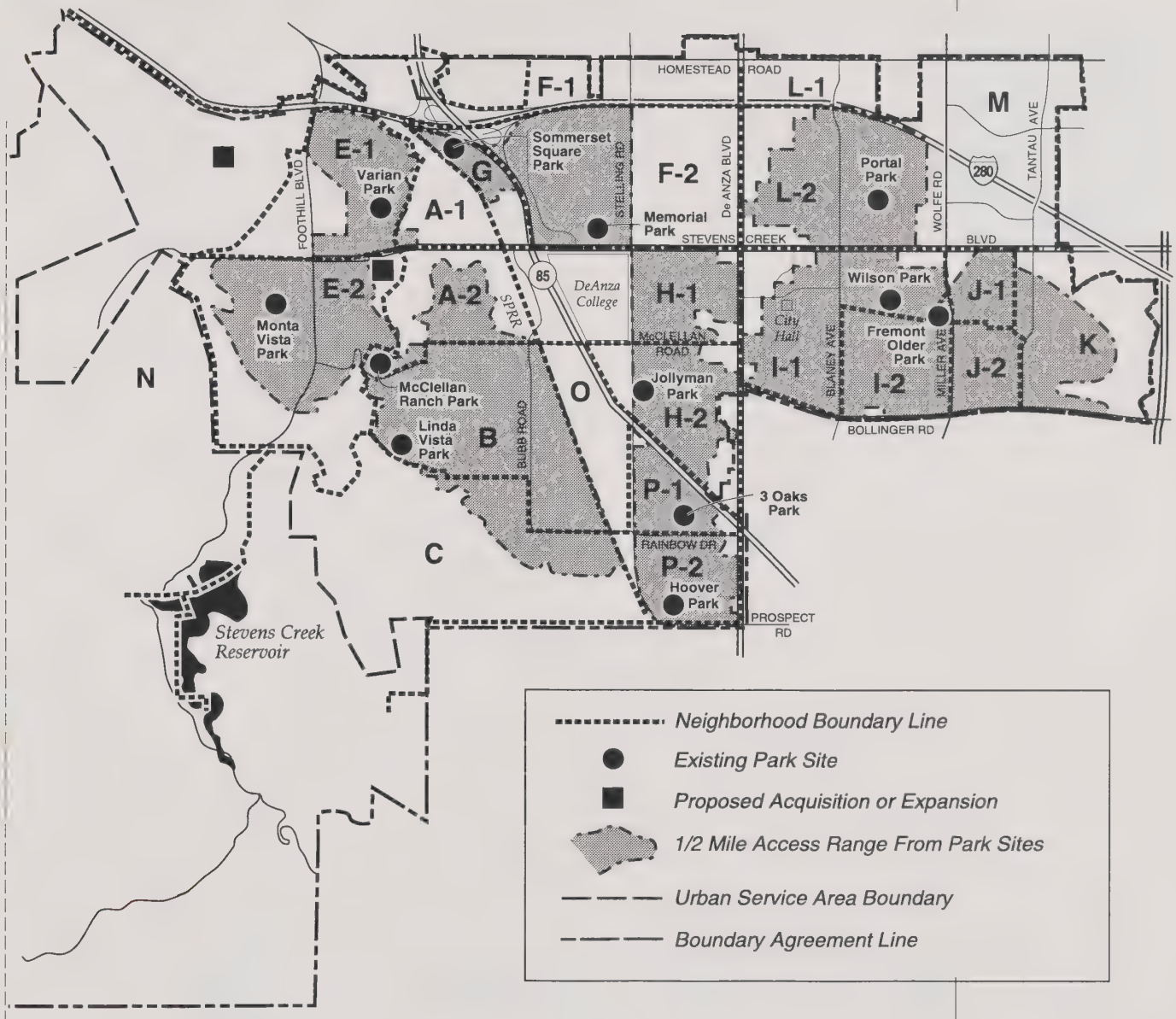
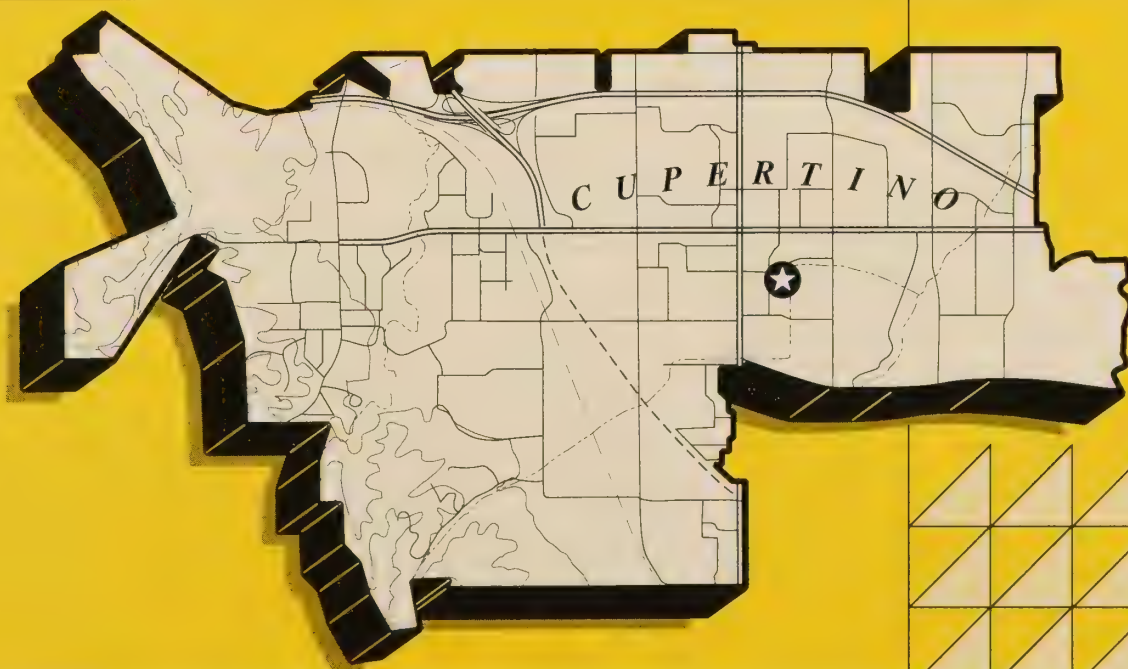
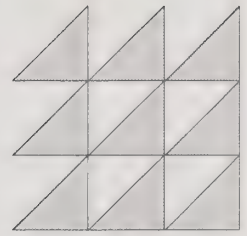


Figure 5-H. 1990 Park Access Status.



Section 6

Public Health and Safety



Introduction

The purpose of this element is to ensure that Cupertino remains a reasonably safe place to live and work. This section points out potential natural threats to life and property, including earthquakes, floods, wildfires and landslides. There also are threats related to human carelessness, including urban fires and failures of water storage tanks, long-term exposure to excessive noise, and crime encouraged by misjudgments in land planning and building design.

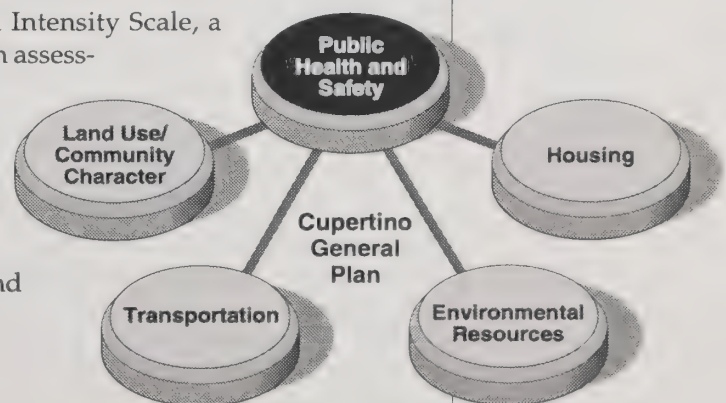
There is no such thing as a risk-free environment; there is only an acceptable level of risk. The question to be answered is "how safe is safe enough?" This is a subjective question. Ideally, one would get rid of as much risk as possible, but local government must try to set realistic standards within today's economic and social limits.

Seismic and Geologic Hazard

The City is seismically very active. The mountains and lower foothills of Cupertino are crossed by the San Andreas Fault, which moves from side to side, and its two splinter faults, the Sargent-Berrocal and Monta Vista fault systems, which move up and down. Figure 6-A shows the two categories of fault displacement. The San and the Sargent-Berrocal fault systems are in the mountains of Cupertino's planning area. The Monta Vista Fault follows the line between the valley floor and the hillsides where urban development has taken place. This fault is potentially active, but although it has not ruptured within the past 11,000 years, the potential always exists and must be considered when reviewing urban development.

Ground shaking is the greatest hazard in an earthquake. Earthquake intensity is measured by two scales. First, the Richter Magnitude, which measures the total energy of an earthquake as determined by a seismograph, an instrument that records the vibrations of the earth. Second, the Modified Mercalli Intensity Scale, a system that measures the earthquake's intensity based on assessing damage and personal reaction to the earthquake. Table 6-A shows the general comparisons between the two scales.

A "maximum probable" earthquake on the San Andreas and Monta Vista faults could cause considerable damage depending on distance and whether the land is bedrock or soils deposited by flowing water.



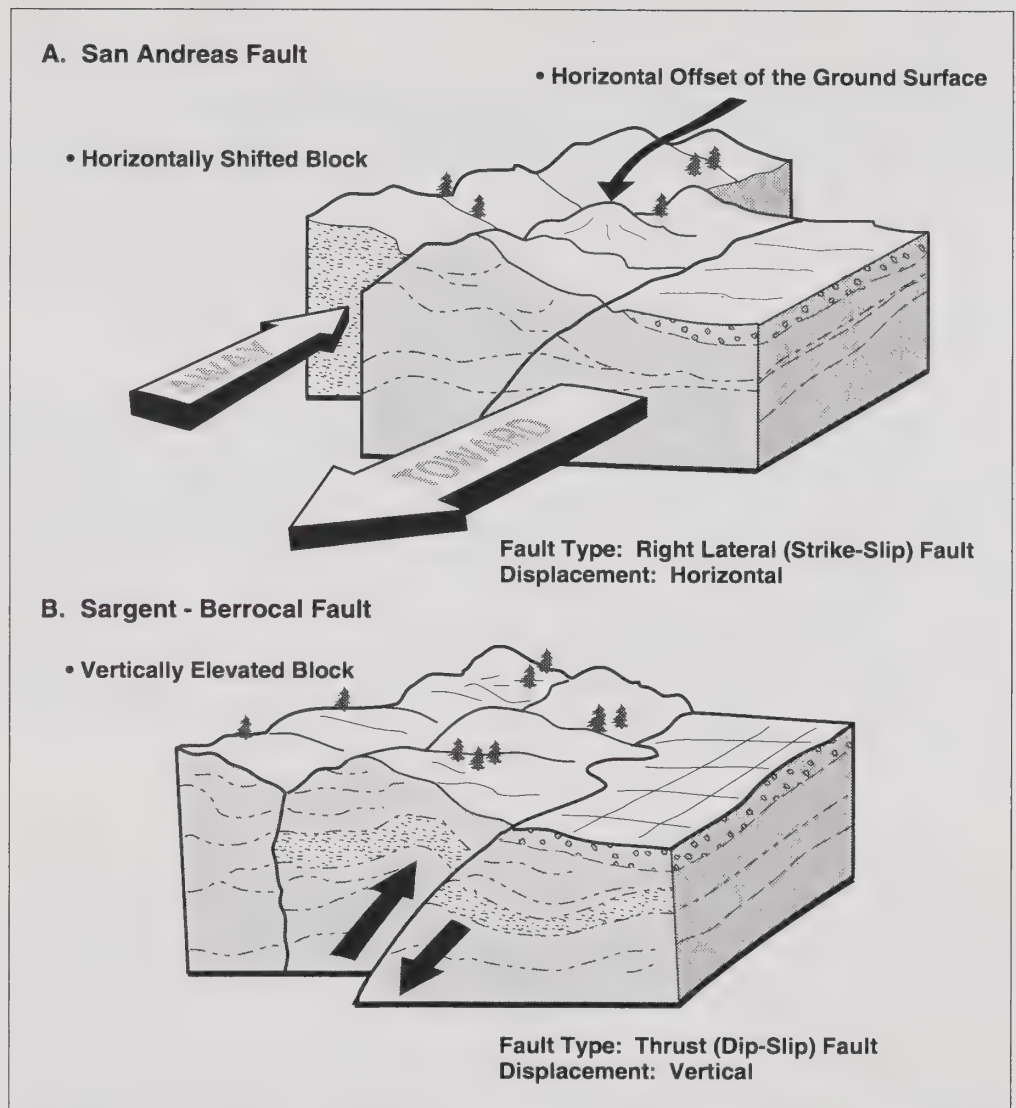


Figure 6-A. Diagrams Exhibiting Faults Within the Cupertino Planning Area Characterized By Horizontal (A) and Vertical (B) Displacements.

EARTHQUAKE PROBABILITY

The time necessary for maximum probable earthquakes to occur again on a given fault are guesses based on present and past activity, the amount of displacement of rock formations of different geologic ages along the fault tract, and the amount of strain accumulation now measured across it. Estimates on potentially active faults such as the Sargent-Berrocal and Monta Vista are even less accurate than estimates for active faults such as the San Andreas.

Tables 6-A and 6-B estimate the maximum earthquake magnitude and recurrence intervals of maximum probable earthquakes for fault systems that affect Cupertino. There is not enough information to estimate probable recurrence of a maximum earthquake on the Sargent-Berrocal and Monta Vista Faults. The recurrence interval on the San Andreas fault is 50 to 200 years; the last maximum earthquake was in 1906. Each year that passes without a maximum earthquake means that an earthquake is statistically more likely to happen within any year.

Table 6-A. General Comparison Between Earthquake Magnitude and the Earthquake Effects Due to Ground Shaking.

Earthquake Category	Richter Mag.	Modified Mercalli Intensity Scale* (After Houser, 1970)	Damage To Structure
Minor	2.00	I Detected only by sensitive instruments	No Damage
		II Felt by few persons at rest, esp. on upper floors; delicate suspended objects may swing	
	3.00	III Felt noticeably indoors, but not always recognized as an earthquake; standing cars rock slightly, vibration like passing trucks	
		IV Felt indoors by many, outdoors by a few; at night, some awaken; dishes, windows, doors disturbed; cars rock noticeably	
5.3	4.00	V Felt by most people; some breakage of dishes, windows and plaster; disturbance to tall objects	Architectural Damage
		VI Felt by all; many are frightened and run outdoors; falling plaster and chimneys; damage small	
	5.00	VII Everybody runs outdoors. Damage to buildings varies depending on quality of construction; noticed by drivers of cars	
		VIII Panel walls thrown out of frames; walls, monuments and chimneys fall; sand and mud ejected; drivers of cars disturbed.	
Moderate	6.00	IX Building shifted off foundations, cracked, thrown out of plumb; ground cracked, underground pipes broken; serious damage to reservoirs/embankments	Structural Damage
6.9	7.00	X Most masonry and frame structures destroyed; ground cracked; rails bent slightly; landslides	
Major		XI Few structures remain standing; bridges destroyed; fissures in ground; pipes broken; landslides; rails bent	
7.7	8.00	XII Damage total; waves seen on ground surface; lines of sight and level distorted; objects thrown into the air; large rock masses displaced	
Great			Total Destruction

* Subjective measure of ground shaking; not engineering measure of ground acceleration

Table 6-B. Active and Potentially Active Faults and Their Earthquake Characteristics.

	Causative Faults	Distance From De Anza/SCB Intersection	Maximum Historic Quake Magnitude	Maximum Probable Quake Magnitude	Est. Recurrence Interval of Max. Prob. Earthquake
San Andreas System	San Andreas	5.5 Miles	8.3 (Richter) (Last event 1906)	8.3 (Richter)	50-100 Years
	Hayward	10 Miles (Last event 1868)	7.0+ (Richter)	7.0+ (Richter)	10-100 Years
	Calaveras	14 Miles	6.0+ (Richter)	7.0+ (Richter)	10-100 Years
Sargent-Berrocal System	Berrocal	3.5 Miles	3.7-5.0 (Richter)	6.5-7.0 (Richter)	Insufficient Data
	Monta Vista	2 Miles	2.0-3.0 (Richter)	6.5-7.0 (Richter)	Insufficient Data

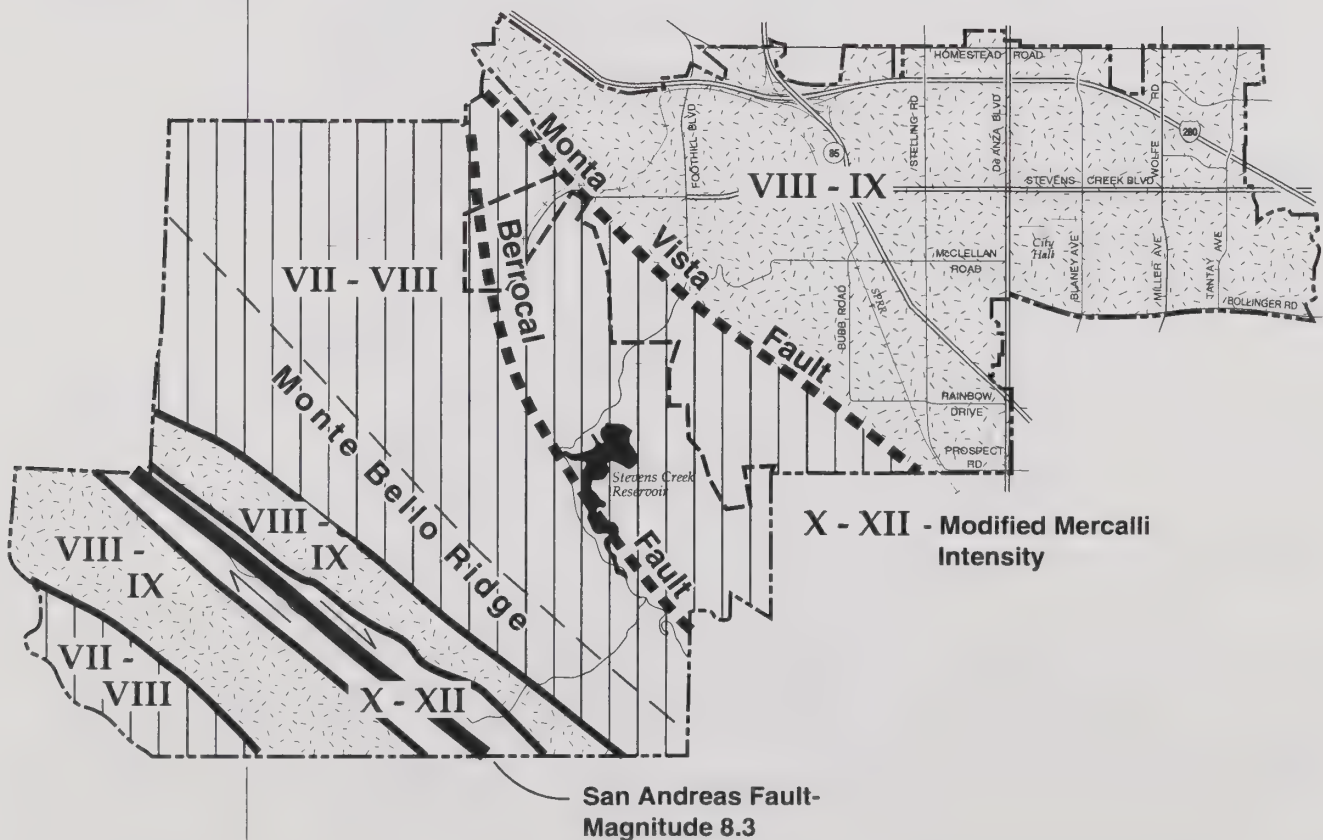


Figure 6-B. Apparent Intensity Map of the Cupertino Planning Areas, San Francisco Earthquake of 1906. (Modified after Algermissen, 1972; and Borchert, et al., 1975)

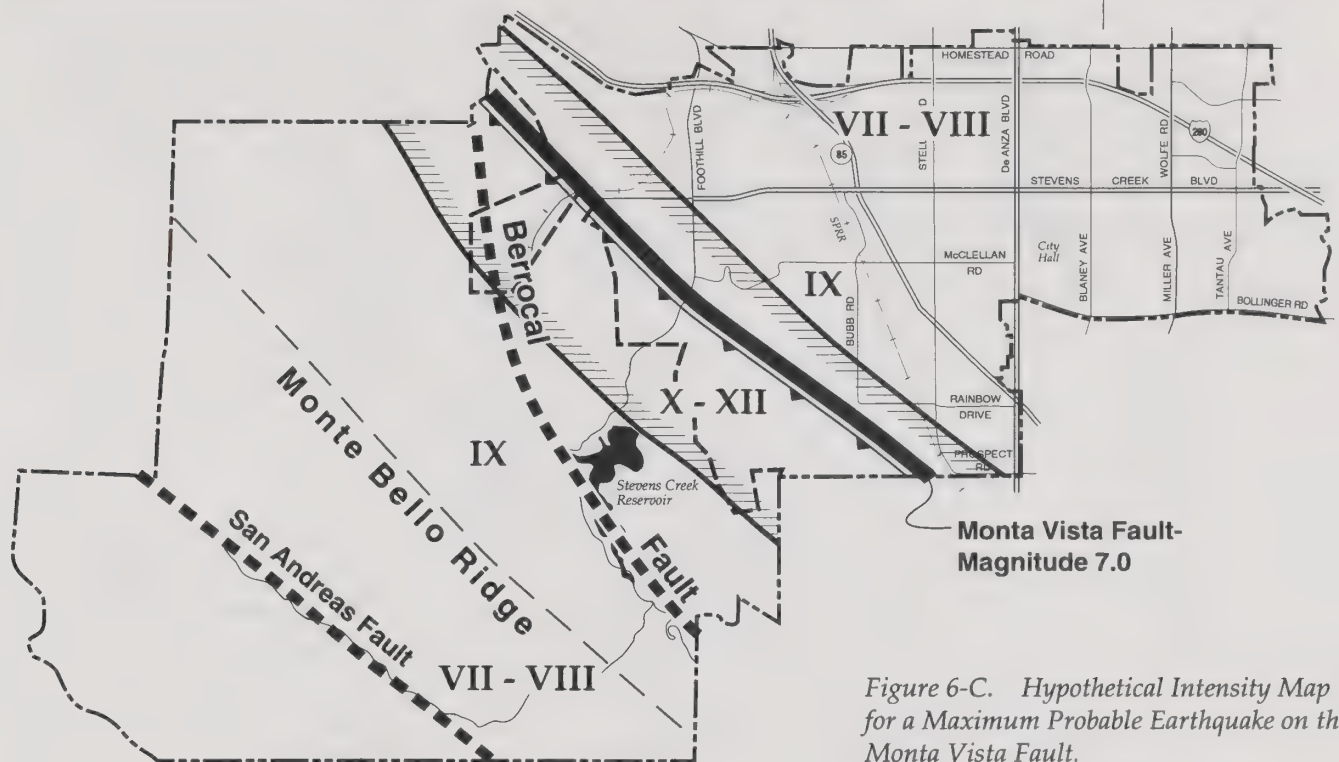


Figure 6-C. Hypothetical Intensity Map for a Maximum Probable Earthquake on the Monta Vista Fault.

Cupertino is divided into 13 geologic/seismic hazard zones. Figures 6-C and 6-D shows the zones and describes the specific hazards that could happen within each zone. The hazard map and table will be used to determine which future development projects must undergo geologic review and the degree of detail of each review.

GEOLOGIC HAZARDS

Landslides are the greatest geologic hazards to the foothills and low mountains in the planning area. Landslides can move earth up or down. The sliding of a slope is the normal geologic process that widens valleys and flattens slopes. The rate ranges from rapid rock falls to very slow soil and bedrock creep. Landslides are caused by inter-related natural factors, such as weak soil and rock over hillsides made steeper by rapid stream erosion, adverse geologic structure, ground water levels and high rainfall rates. Landslides can be caused by improper grading, excessive irrigation, removal of natural vegetation and altering surface and sub-surface drainage.

Figure 6-E shows landslide deposits within Cupertino. Geologic mapping in the hillsides shows that landslide deposits cover as much as 20 to 30 percent of the hillsides in the planning area. Landslides range from small, shallow deposits made up of soil and weak bedrock materials to large, deep landslides involving a large amount of bedrock.

It's nearly impossible to know the long-term stability of a landslide deposit. Old deposits are the most difficult to judge. Experience shows that old landslides are far more likely to move again than areas that have not had landslides before. Areas in these old landslides that are next to steep, new stream channels are more likely to have new landsliding than areas further from the new channels. This would be especially true with severe shaking during a major earthquake on any of the three faults in Cupertino. The historic account of the 1906 earthquake shows many landslides throughout the Santa Cruz Mountains. Some of these were catastrophic, causing loss of life, personal injury and severe damage to buildings.

SEE THE CITY OF CUPERTINO GEOLOGIC AND SEISMIC HAZARDS MAP FOR A PARCEL SPECIFIC GEOLOGIC MAP.

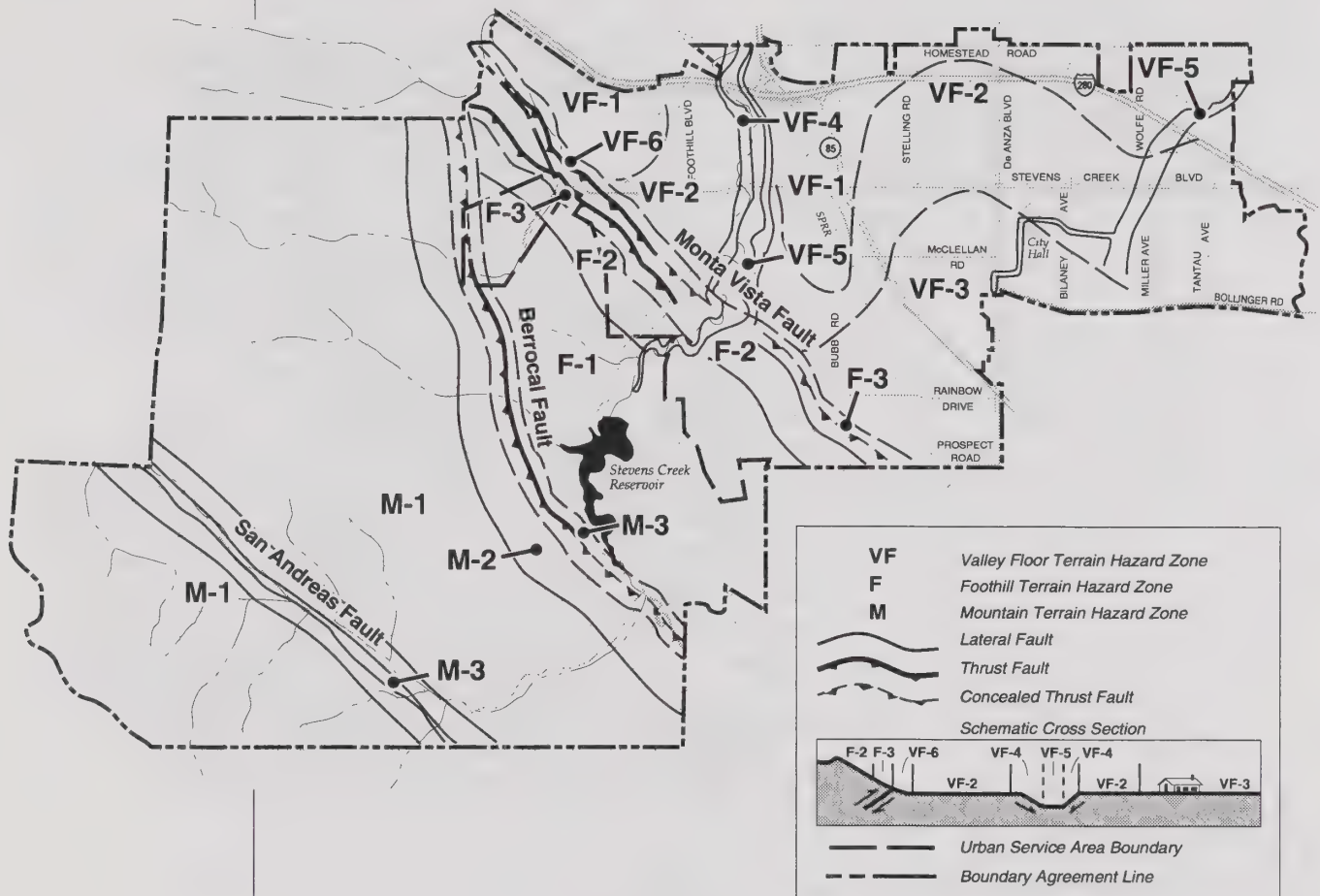


Figure 6-D. Seismic and Geological Hazards.

Landslides are expected along the higher portions of Stevens Creek embankments on the valley floor, confined to local sites along the stream channel extending from the front of the hillsides across the valley floor. The hazard can be reduced significantly by restricting building at the base and top of the embankments.

ACCEPTABLE LEVEL OF RISK

Land use and building design standards must relate to the degree of geologic and seismic hazards in the zone in which a proposed project would be built so that an acceptable level of risk can be assigned. Table 6-D shows an acceptable level of risk for seven land use categories. The four levels of acceptable risk range from extremely low to ordinary. Extremely low risk is assigned to vital structures, such as a large dam or a public utility facility. An ordinary risk category is assigned to buildings such as single-family houses, warehouses and farm buildings. The table also shows the possible additional cost of measures to reduce risk and identifies the level of protection for life and property.

Land use in the extremely low risk category must achieve maximum safety. For example, Stevens Creek Reservoir must be designed to remain totally functional during the worst possible earthquake. Those improvements must be made at any cost; there is no set percentage of cost associated with structural safety improvements. Ordinary risk activities will cost about 1 to 2 percent more for the desired level of safety.

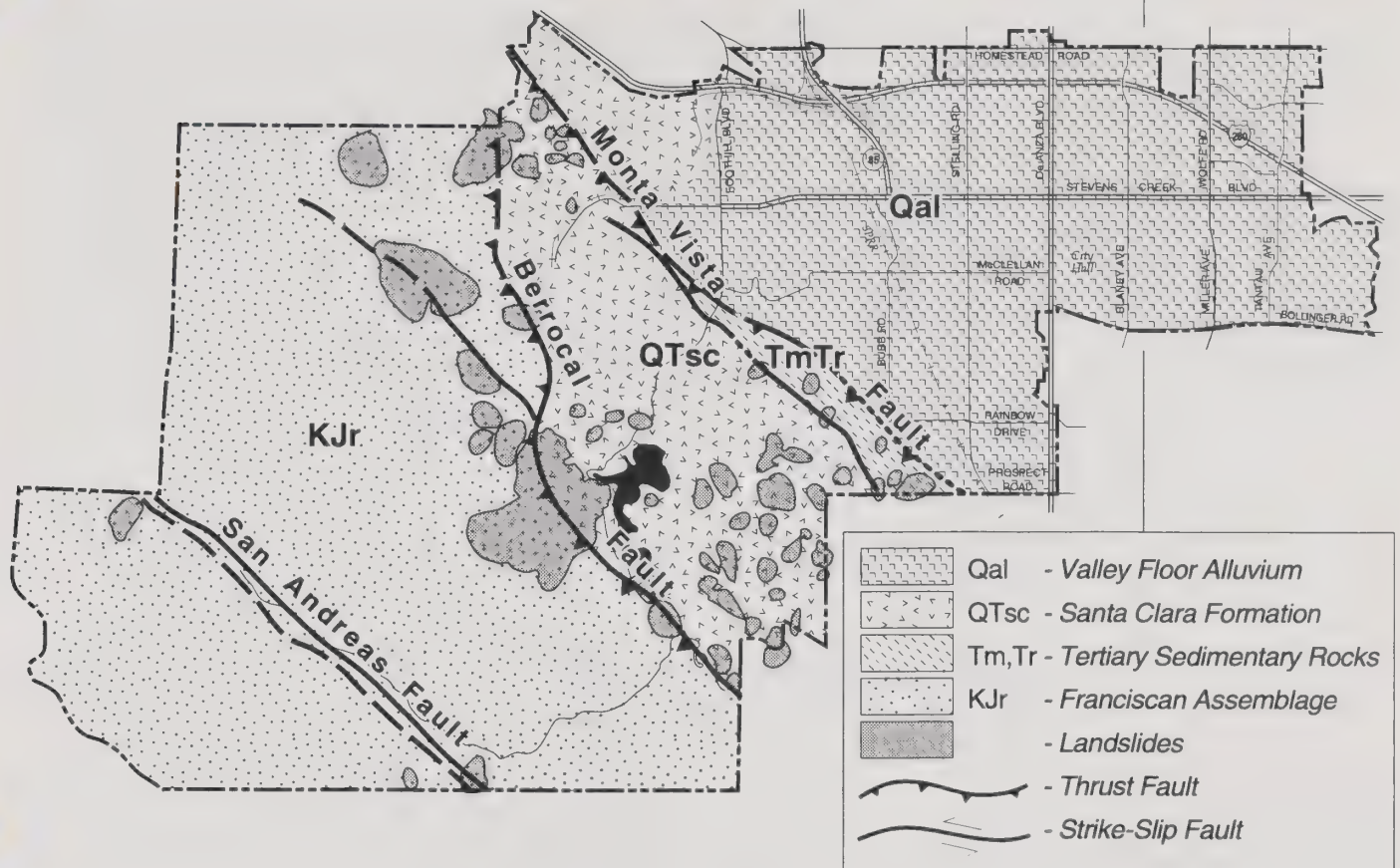


Figure 6-E. Cupertino Geology.

Figure 6-F shows vital facilities that must remain intact during the worst probable earthquake on any fault system in Cupertino. Most of these facilities are owned by private companies or public agencies beyond direct City control. The map's purpose is to bring the owners' attention to the need to evaluate the facilities in terms of their potential to disrupt service or cause hazard to Cupertino residents. Cupertino City Hall is a communications center for natural disasters, including earthquakes, and will be important in coordinating emergency services. The City must be sure that critical parts of the water system can withstand a maximum earthquake so that there will be sufficient water to drink and fight fires.

Table 6-E shows a policy position on the amount of technical evaluation needed to be sure that hazards in new developments are reduced to an acceptable level of risk based on land use. Critical facilities in Cupertino's planning area should be evaluated and modified structurally to withstand a maximum earthquake.

Table 6-C. *Explanations: Geologic and Seismic Hazards Map of the Cupertino Planning Area.*

Geologic Terrain Unit	General Geologic/Seismic Hazards Within Terrain Unit	Hazard Zone Map Symbol	Specific Hazard To Be Considered In Haz. Zone
VALLEY FLOOR: Nearly flat, urbanized valley floor; steep walls of Stevens Creek Canyon; low rolling foothills area near St. Joseph Seminary and Monta Vista substation	GROUND SHAKING - Moderate to locally severe VIII to IX intensity for max. probable event (8.3M) on San Andreas Fault. X to XII intensity within 1000 ft. and VII to VIII intensities at distance > 1000 ft. from max. probable event on Monta Vista Fault.	VF - 1/2/3	- Ground Shaking - Ground Failure - Flood Inundation (Calabazas Creek)
	GROUND FAILURE - Moderate to high landslide potential along steep Stevens Creek canyon walls; Moderate-high potential lateral spreading and ground lurching, Stevens Creek Canyon walls, liquefaction potential low-moderate	VF - 4	- Ground Shaking - Ground Failure (landsliding, lurching, lateral spreading)
	GROUND RUPTURE - Moderate potential along and w/in 300 ft. east of Monta Vista Fault trace	VF - 5	- Ground Shaking - Ground Failure (liquefaction) - Flood Inundation
	FLOOD INUNDATION - Moderate-high potential along Stevens Creek under seismic or non-seismic conditions, and along Calabazas Creek under non-seismic conditions	VF - 6	- Ground Shaking - Ground Rupture (Monta Vista Fault)
FOOTHILLS - Gentle to steep, partially urbanized hillside area located west of Valley Floor, generally east of Montebello Ridge	GROUND SHAKING - Moderate to locally severe VIII to IX intensity for max. probable event (8.3M) on San Andreas Fault. X to XII intensity within 2000 ft. west of Monta Vista Fault for max. probable event (7.0M)	F - 1	- Ground Shaking - Ground Failure (landsliding)
	GROUND FAILURE - Moderate to high landslide potential under seismic/non-seismic conditions for slopes > 15%; ground lurching, fracturing within 2000 ft. west of Monta Vista Fault trace during maximum probable earthquake.	F - 2	- Ground Shaking - Ground Failure - Ground Rupture
	GROUND RUPTURE - Moderate potential along and w/in 300 ft. east and 600 ft. west of Monta Vista Fault and Berrocal Fault	F - 3	- Ground Shaking - Ground Failure - Ground Rupture
	FLOOD INUNDATION - Moderate-high potential along Stevens Creek under seismic or non-seismic conditions	F - 4 (Same as VF - 5)	- Ground Shaking - Ground Failure - Flood Inundation
MOUNTAINS - Moderate to steep hillside areas of Montebello Ridge and Santa Cruz Mountains	GROUND SHAKING - Moderate to locally severe X to XII intensity for max. probable event (8.3M) on San Andreas Fault. X to XII intensity within 2000 ft. from Berrocal Fault for max. probable event (7.0M)	M - 1	- Ground Shaking - Ground Failure (landsliding)
	GROUND FAILURE - Moderate to high landslide potential under seismic/non-seismic conditions for slopes > 15%; ground lurching, fracturing within 2000 ft. west of Berrocal and San Andreas Fault	M - 2	- Ground Shaking - Ground Failure (lurching, fracturing)
	GROUND RUPTURE - High potential w/in 600 ft. of San Andreas Fault trace; Moderate potential 600 ft. west of Berrocal Fault trace	M - 3	- Ground Shaking - Ground Failure - Ground Rupture

Table 6-D. *Acceptable Exposure to Risk Related to Various Land Uses.*

Land uses and structural types are arranged below according to the level of exposure to acceptable risk appropriate to each group; the lowest level of exposure to acceptable risk should be allowed for Group 1 and the highest level of exposure to acceptable risk for Group 7.

Acceptable Exposure To Risk	Land Use Group	Extra Project Cost To Reduce Risk To Acceptable Level
EXTREMELY LOW	Group 1	VULNERABLE STRUCTURES (nuclear reactors, large dams, plants manufacturing/ storing hazardous materials) As required for maximum attainable safety
	Group 2	VITAL PUBLIC UTILITIES, (electrical transmission interties/substations, regional water pipelines, treatment plants, gas mains) Design as needed to remain functional after max. prob. earthquake on local faults
	Group 3	COMMUNICATION/TRANSPORTATION (airports, telephones, bridges, freeways, evac. routes) 5% to 25% of project cost
		SMALL WATER RETENTION STRUCTURES Design as needed to remain functional after max. prob. earthquake on local faults
		EMERGENCY CENTERS (hospitals, fire/police stations, post-earthquake aide stations, schools, City Hall, De Anza College)
MODERATELY LOW	Group 4	INVOLUNTARY OCCUPANCY FACILITIES (schools, prisons, convalescent and nursing homes) HIGH OCCUPANCY BUILDINGS (theaters, hotels, large office/ apartment bldgs.)
	Group 5	PUBLIC UTILITIES, (electrical feeder routes, water supply turnout lines, sewage lines) 5% to 25% of project cost
		FACILITIES IMPORTANT TO LOCAL ECONOMY Design to minimize injury, loss of life during maximum probable earthquake on local faults; need not design to remain functional
ORDINARY RISK LEVEL	Group 6	MINOR TRANSPORTATION (arterials and parkways) 2% of project cost; to 10% project cost in extreme cases
		LOW-MODERATE OCCUPANCY BUILDINGS (small apartment bldgs., single-fam. resid., motels, small commercial/office bldgs.)
	Group 7	VERY LOW OCCUPANCY BUILDINGS (warehouses, farm structures) Design to resist minor earthquakes w/o damage; resist mod. earthquakes w/o struc. damage, with some non-struct. damage; resist major earthquake (max. prob. on local faults) w/o collapse, allowing some struc. & non-struct. damage
		OPEN SPACE & RECREATION AREAS (farm land, landfills, wildlife areas)

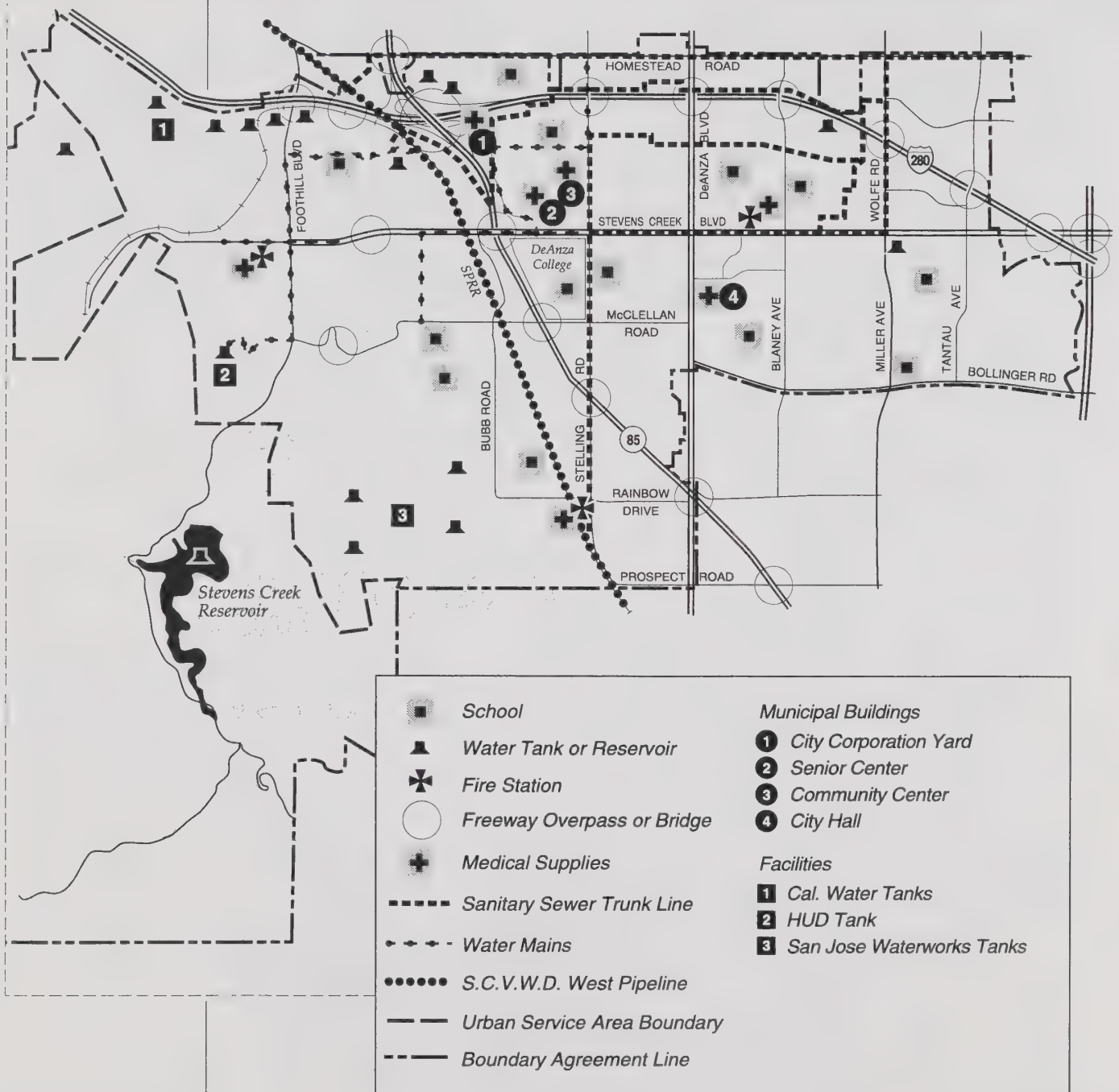


Figure 6-F. Critical Facilities.

Table 6-E. Technical Investigations Required to Design Structures Based Upon Acceptable Level of Risk for Various Land Use Activities.

	Hazard Zone Map Symbol	
	VF 1 2 3 5 6	F 1 2 3 4 M 1 2 3 VF 4
	Evaluations Required	Evaluations Required
Land Use Activity (Table 6-D)		
Groups 1 to 4	Uniform Bldg. Code (UBC) Soils Seismic Hazard	Uniform Bldg. Code (UBC) Soils Seismic Hazard Geology
Groups 5 to 7	Uniform Bldg. Code (UBC) Soils	Uniform Bldg. Code (UBC) Soils Geology

Description Of Technical Evaluations

UBC	1976 Edition, Uniform Building Code
Soils	Soils and foundation investigation to determine ability of local soil conditions to support structures
Geology	Determine subsurface structure to analyze potential faults, ground water conditions and slope stability
Seismic Hazard	Detailed soils/structural evaluation to certify adequacy of normal UBC earthquake regulations or to recommend more stringent measures

POLICY RECOMMENDATIONS

This section outlines actions the City should take to reduce the risk of injury or property loss caused by natural disasters. Regulating new development offers the greatest rewards in risk reduction because while it is difficult to improve existing development, it is much easier to locate and design new buildings to achieve this goal.

■ **Policy 6-1: Seismic/Geologic Review Process**

Adopt and use a formal seismic/geologic review process to evaluate new development proposals all over the City.

Strategies

1. **Acceptable Level of Risk.** Use the table on acceptable level of risk to identify reasonable levels of risk for land uses. The table gives general structural risk-reducing design criteria for each land group.
2. **Geotechnical and Structural Analysis.** Use Table 6-E of the Seismic Safety Background Report to find the necessary geotechnical and structural analysis based on the proposed location of a development in a specific hazard zone.
3. **Earthquake-Resistant Design Techniques.** Give a high priority to using new earthquake-resistant design techniques in the design and structural engineering of buildings.
4. **Residential Construction Standards Upgrade.** Upgrade construction standards for non-engineered residences to reduce earthquake damage, limiting them to minor construction techniques and components that do not significantly raise costs. Examples are additional bracing for garage openings of two-story and split-level homes and increased first story bracing in multiple-family residences over parking garages.
5. **Geotechnical Review Procedure.** Adopt a geotechnical review procedure that incorporates these concerns into the development review process.

It is not practical to improve buildings to incorporate revised earthquake safety standards. Luckily, most buildings in Cupertino are new and were constructed under a building code that includes components and designs that resist ground shaking.

Still, structures identified as "critical facilities" should be re-evaluated, especially those in the high-hazard zones. Many seismic safety evaluations have been completed. Cupertino's schools comply with legal standards. The state Department of Transportation is looking at freeway overcrossings to see how resistant they are to ground shaking.

Evaluating non-critical public or private buildings is too expensive but City government should educate residents, employers, and business owners to protect their property and reduce risk of injury.

SEE POLICY 2-56 AND
POLICY 2-49

SEE GEOTECHNICAL
MAP

SEE EMERGENCY
PREPAREDNESS PLAN

Policy 6-2: Public Education on Seismic Safety

Continue the public education program to help residents reduce earthquake hazards.

Strategies

1. **Covenant on Seismic Risk.** Continue the City program that requires developers to record a covenant to tell future residents in high-risk areas about the risk and inform them that more information is in City Hall records. This is in addition to the state requirement that information on the geological report is recorded on the face of the subdivision map.
2. **Earthquake Safety Booklet.** Continue to distribute a general informational booklet of instructions to minimize earthquake risks for owners of homes and businesses. This booklet may be published in the Cupertino Scene. Examples of safety tips may include tying down gas appliances, installing an appropriate tool next to gas turn-off valves, finding a safe location for family members to gather during an earthquake, recommending earthquake drills and advising residents to maintain first-aid supplies, food, and drinking water.
3. **Promote Emergency Preparedness.** Publish and promote emergency preparedness activities and drills.
4. **Community Alert System.** Create and maintain a computerized calling program to alert and evacuate neighborhoods in disasters.
5. **Develop Neighborhood Response Groups.** Train neighborhood groups to respond to disasters as they request assistance. Assist in neighborhood drills.
6. **Dependent Populations.** Encourage operators/owners of buildings with dependent populations such as day care centers, schools, residential day care and convalescent homes to prepare their buildings and clients through an emergency plan, training and drills.
7. **Foreign Language Emergency Information.** Actively translate emergency preparedness materials and distribute to appropriate foreign language populations.

Fire Hazard

Fire Services

The City of Cupertino's fire fighting and emergency medical services are provided by the Central Fire Protection District. Three fire stations are located in the City of Cupertino. (Figure 6-G)

The District also provides similar services for The Town of Los Gatos, Campbell, Monte Sereno and a portion of the City of Saratoga. Besides fire protection, the District provides fire prevention activities, educational programs, including those on earthquake preparedness training, cardio pulmonary resuscitation and first aid certification classes.

The current and projected operating budget allows the District to perform these functions satisfactorily. The City and District goal is to maintain a high level of service which is measured by response times. It is the policy of the District to respond to all emergency calls in under five minutes. The fire stations are strategically distributed throughout the city in order to reduce response times.

Fire Hazards on the Urbanized Valley Floor

People who live and work in Cupertino are not subject to a high risk of fire. The City has a well-managed fire protection service; buildings are relatively new and there is a strong code enforcement program and adequate water service. Nevertheless, there is room to reduce fire hazards in some geographical areas. Fire risk in cities depends on building construction techniques, materials and heights, response time of fire equipment and firefighters and water availability.

In urban areas, the most serious concern is fires in high-rise buildings, multiple family dwellings and commercial and industrial structures containing highly combustible or toxic materials.

RELATIONSHIP OF BUILDING DESIGN AND MATERIALS TO FIRE RISK

Cupertino minimizes fire hazards by regulating building construction and site planning through the Uniform Fire Code and the Uniform Building Code. All land within City limits is designated Fire Zone 3 under the Uniform Fire Code. This is the least restrictive of the fire zones and is used by suburbs in which most of the buildings are constructed to modern standards and separated so that fire is not likely to spread from one to another. Cupertino's large commercial and industrial buildings are designed to separate large areas to prevent the spread of fire. The City also requires automatic sprinkler and fire detection systems to further reduce risks.

The City and the Fire District periodically inspect commercial and industrial buildings, but single-family homes do not require inspection. Smoke alarms are required in all new homes constructed in the City.

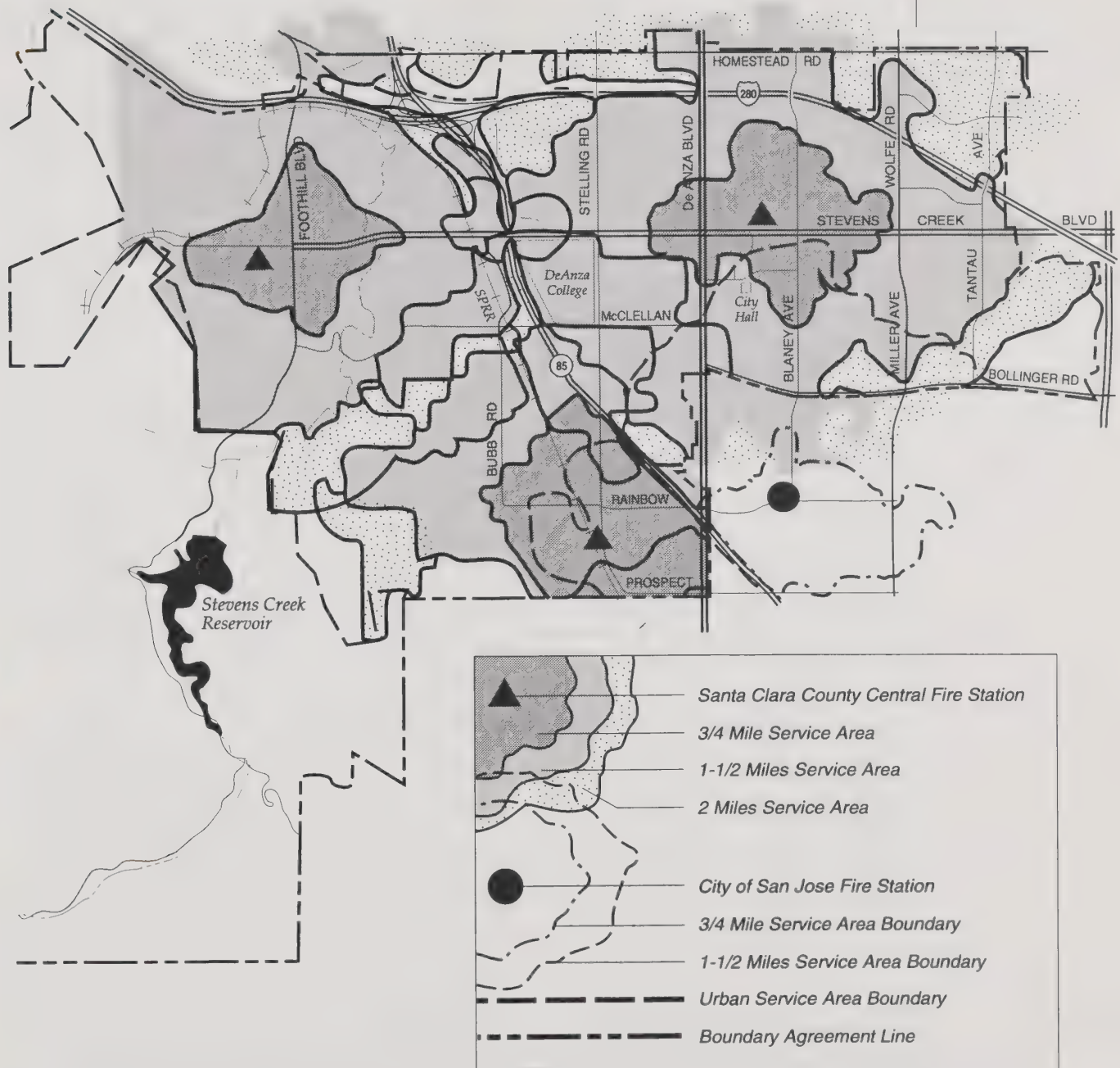


Figure 6-G. Fire Service Area Boundaries.

ACCESSIBILITY

A radius of a mile and a half is generally the ideal service area for a fire station, but a large number of commercial and industrial buildings may require a radius of three-quarters of a mile while a rural environment of single-family and two-family houses may permit a radius of three to four miles or more. Figure 6-G shows the distances from four Central Fire District Stations and the Rainbow-Blaney Avenue station in San Jose. As shown, the majority of the community is within the one mile and a half radius. These distances predict potential response time, which may change due to traffic congestion and other problems.

The ideal service area lines are used to show the relative degree of accessibility to various areas in Cupertino.

One of the major goals of fire service is to reduce response time, but the City's policy of discouraging commute traffic from driving through neighborhoods may delay response time because it is difficult for fire equipment to use direct routes. Private security systems for planned residential communities may also delay response time and must be looked at carefully.

The City of Cupertino has a good safety record in terms of fire protection and a minimum of fire losses. This record is reflected in the City's excellent fire insurance rating of Class 3 (1 being perfect). This low level of risk is the combined result of the high proportion of new construction which meets current Uniform Building Code standards, and an efficient fire protection service.

Increased calls for fire service and traffic congestion can erode the Fire Department's critical response times. To compensate, the District will adjust and/or expand staff and equipment in high areas of service demand and continue its program of placing emergency traffic preemption controls on key traffic signals.

People who live in the foothills and mountains of Cupertino's planning area are most at risk from fire. The City is not directly involved in fire fighting in the mountains but fire safety in the Montebello Ridge and Stevens Canyon area does affect Cupertino directly. Major fires would harm the Stevens Creek watershed, by increasing flooding potential, by silting up stream beds and by reducing recreational opportunities.

Fire Hazards in the Foothills and Mountains

The vegetative cover, the degree of slope and critical fire weather are the three natural factors the California Division of Forestry uses to classify the severity of potential fire in the foothills. Development in the foothills is typically scattered and of low density, making fire protection difficult. The amount of hazard to life and property is affected not only by the fire itself but by road access for evacuation, the number of available fire fighters, the availability of water to fight the fire and the effectiveness of building codes and inspection of developments in fire hazard areas.

There are about 16 square miles of land in the mountains of the Cupertino planning area. Living in the rural hillsides has become very popular. Any increase in density increases fire exposure risks. In 1992, all properties above the 10% slope line were categorized as Hazardous Fire Areas, that is, land which is covered with grass, brush or forest, and which is also difficult to access. Structures within this area are required to have fire retardant roofing (Class A) and to continuously clear any brush away from their structures. Such structures may also be required to have sprinklers. If a fire were to start in this area, it would be abnormally difficult to suppress. Under County zoning regulations, the number of houses in such hazardous areas would peak at between 112 and 190.

Most of the mountainous land is owned either by the Midpeninsula Regional Open Space District or the Santa Clara County Parks System. When the parks are fully active, many people could be exposed to fire risk.

SEE POLICY 2-53 AND
POLICY 2-56

BUILDING CODES

The Uniform Fire Code is used to designate certain areas as hazardous fire areas. The code regulates building materials and the closeness of combustible plants to a structure. The County Fire Marshal and Central Fire Protection District regulate activities in fire hazard areas, including closing an area to the public. The County Fire Marshal currently responds to complaints in the hazardous fire area. An inspection program is being designed for both weed abatement and brush clearance. The goal date for implementation is December 1993.

ROAD ACCESS

Access is a key component of fire safety. Fire fighting equipment must be able to reach the fire; likewise, assurance must be given to residents and visitors that they can escape from fire. Fire equipment needs roads which are passable, have less than 15% grade, a turning radius minimum of 42 feet or greater and places to turn around.

Public road access is severely limited. All emergency access roads run through private property and these property owners are asked to act independently or to form groups to maintain fire access roads. Santa Clara County lists the Montebello Road/Stevens Canyon area as the fourth highest risk in the county.

A gravel surface road links Montebello Road and the Palo Alto Sphere of Influence to the bottom of Stevens Canyon. A fire trail extends from Skyline Boulevard on Charcoal Road to Stevens Canyon. Segments of that road are not paved and are extremely steep, so standard passenger cars cannot be used.

Road accessibility in the lower foothills is easier. The City requires an all-weather surface, private emergency access connection between public streets within Lindy Canyon and Regnart Canyon. However, private roads are less likely to meet the access standards. There are usually no long-term guarantees of maintainance. Typically, private roads have lower construction standards than public roads.

Dead end roads, especially long dead end roads which give access to many portions of Regnart Road and Stevens Canyon areas, are risky. For this reason, alternate access routes are provided via private emergency access routes.

WATER SUPPLY ON MONTEBELLO RIDGE AND IN STEVENS CANYON

There are no water systems in the Montebello Road and Stevens Canyon area with the exception of Stevens Creek itself. The county requires each homesite to be served by a 10,000 gallon tank. It is theoretically possible to have water storage systems that are jointly owned and operated and possible to reduce the required amount of water if there is an adequate water main distribution for all homes sharing the joint facility.

WATER SUPPLY FOR FOOTHILL REGIONS WITHIN THE URBAN SERVICE AREA

All development in the Urban Service Area must be served by a water system that complies with City standards for household and firefighting use. In the short term, a few developed areas, such as lots in the upper reach of Regnart Canyon and a few areas in Inspiration Heights, have an inadequate water system. In the long term, these areas will receive a better supply of water for fighting fires as the City's water system or adjoining water provider expands along with new development and capital improvements projects.

WATER SUPPLY FOR FOOTHILL REGIONS

The Reglin Mutual Water System services approximately 120 families in the Fire Hazard area. There is no guarantee that these homeowners will maintain the water supply and equipment. The Board of Directors has indicated that one of the existing water tanks is in need of replacement. Annexation from one of the adjoining water companies may be necessary.

Having enough water is important in fighting fires. Three of the four water retailers serving the City of Cupertino, (Figure 6-H) also serve foothill areas. These servers include the Cupertino Municipal Water, Reglin Mutual Water System and San Jose Water Company. The San Jose Water company has adequate water lines and distribution systems to meet the fire flow needs. However, although they meet today's needs, neither private water system is required to maintain adequate fire flows under its agreements with the City and fire agencies.

The City bought its domestic water system in 1960, when it consisted of old distribution lines and pumping facilities. The utility now has modernized lines mostly through new development, but there are areas in the City that must be upgraded to meet fire-flow requirements.

The Fire District has extensive fire and hazardous materials mutual aid plans with adjacent cities, the County of Santa Clara and various state agencies. Mutual aid agreements with surrounding jurisdictions augment the City's fire response capabilities.

The City of Cupertino has taken a number of steps to combat fire hazards including adoption of the State 1991 Fire Code, and has declared most of the Santa Cruz Mountain range as hazardous fire areas. An early review process with the Fire District and the City is conducted to incorporate fire prevention methods. Secondly, the City reviews building plans and requires use of fire-resistant materials. The City coordinates with and encourages the County of Santa Clara to uphold the weed abatement program.

SEE POLICY 2-58

■ ***Policy 6-3: County Fire Hazard Reduction***

Encourage the county to put into effect the fire reduction policies in the County Public Safety Element.

■ ***Policy 6-4: Fuel Management to Reduce Fire Hazard***

Encourage the Midpeninsula Open Space District and the County Parks Department to continue efforts in fuel management to reduce fire hazard.

■ ***Policy 6-5: Green Fire Breaks***

Encourage the Midpeninsula Open Space District to consider "green" fire break uses for open space lands. This could include commercial timber harvesting.

■ ***Policy 6-6: Residential Fire Sprinklers***

Continue to require fire sprinklers in new residential construction located in hillside areas and on flag lots.

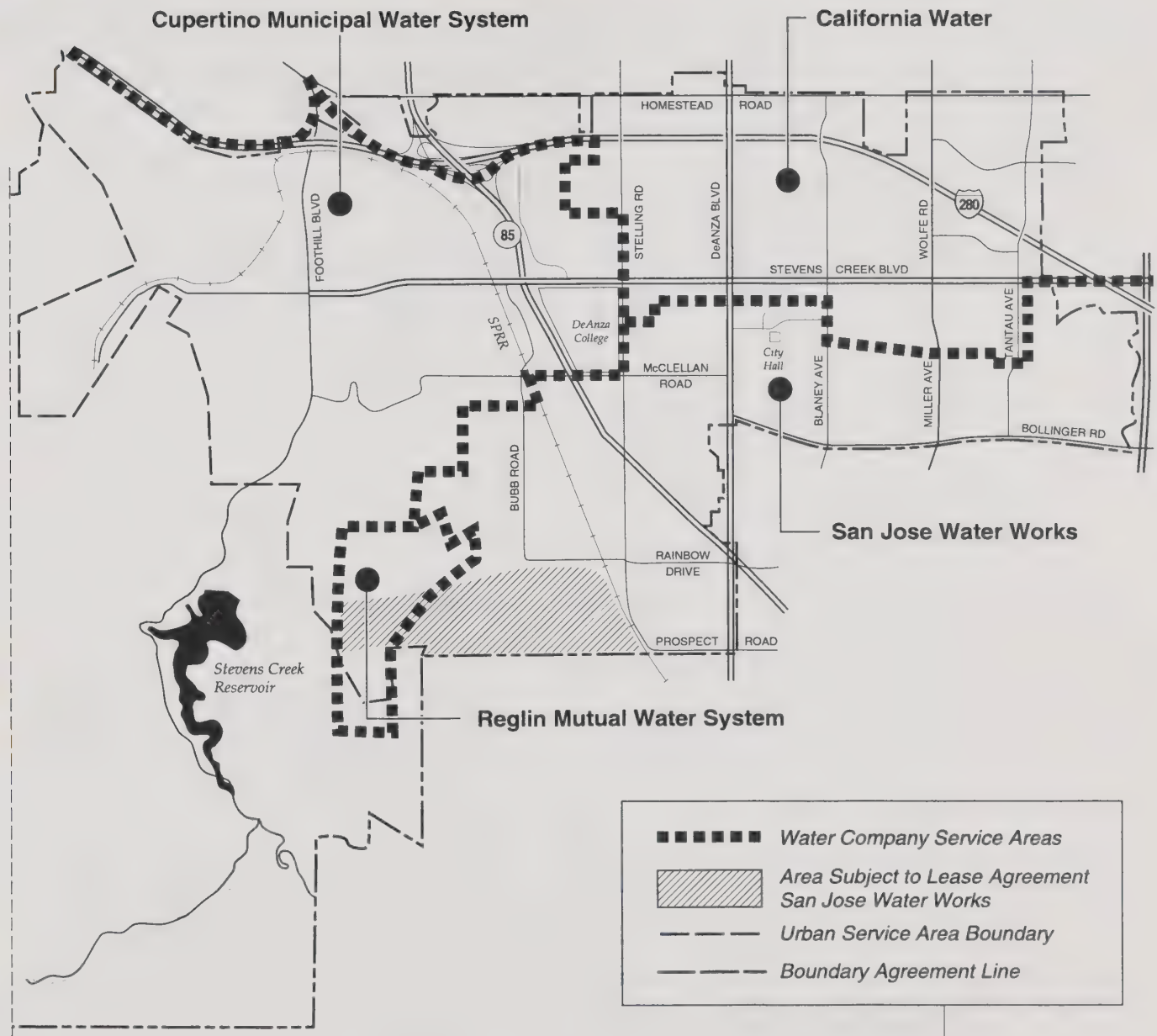


Figure 6-H. Water Service.

Policy 6-7: Hillside Access Routes

Require new hillside development to have frequent grade breaks in access routes to ensure a timely response of fire personnel.

Policy 6-8: Hillside Road Upgrades

Require new hillside development to upgrade existing access roads to meet Fire Code and City standards.

SEE RESIDENT
HILLSIDE ORDINANCE

SEE MUNICIPAL
CODE CHAPTER 14.04

PREHEARING REVIEW

■ Policy 6-9: Early Project Review

Involve the Central Fire Protection District in the early design stage of all projects requiring public review to assure fire department input and plan modifications as needed.

■ Policy 6-10: Growth Cooperation

Encourage cooperation between water utility companies and the Central Fire District in order to keep water systems in pace with growth and firefighting service needs.

■ Policy 6-11 : Fire Fighting Upgrade Needs

Encourage utilities to consider Central Fire District's firefighting needs when upgrading water systems.

■ Policy 6-12: Roadway Design

Attempt to involve the Central Fire District in the design of public roadways for review and comment. Attempt to ensure that roadways have frequent median breaks for timely access to properties.

■ Policy 6-13: Fire Prevention

Continue to promote fire prevention through city-initiated, public education programs either through the government television channel and/or the Cupertino Scene.

■ Policy 6-14: Multi-Story Building Fire Risks

Recognize that multi-story buildings of any land use type increases risks of fire. Ensure that adequate fire protection is built into the design and require on-site fire suppression materials and equipment to ensure safety of the community.

■ Policy 6-15: Residential Fire Sprinkler Ordinance

Consider adopting a residential fire sprinkler ordinance. This will reduce both fire flows and the need for firefighting personnel and equipment.

■ Policy 6-16: Commercial and Industrial Fire Protection Guidelines

Coordinate with the Fire District to develop new guidelines for fire protection for commercial and industrial land uses.

■ Policy 6-17: Private Residential Entry Gates

Discourage the use of private residential entry gates which act as a barrier to emergency service personnel.

Policy 6-18: Dead-End Street Access

Allow public use of private roadways during an emergency for hillside subdivisions that have dead-end public streets longer than 1,000 feet or find a secondary means of access.

Policy 6-19: Smoke Detectors

Continue to require smoke detectors in new residential construction and continue to support fire protection agencies' education of homeowners on installation of smoke detectors. Use the Cupertino Scene to publicize fire hazards and correction methods.

Flood Hazard

Floods can result from large rainstorms, failure of water-storage facilities and from a water basin created by a landslide.

Flood Hazard from Rainstorms

Floods caused by large rainstorms are the most common and the least risky. The vast watersheds in the Santa Cruz Mountain Range feed into four major streambeds that cross the City: Permanente Creek, Stevens Creek, Regnart Creek, and Calabazas Creek. Figure 6-I shows streambed locations and the extent of a 100-year flood, the flood that has a 1 percent chance of happening during any given year.

The 100-year flood is the standard design flood accepted by the City, the Santa Clara Valley Water District and federal agencies. There is more information on this subject in the section on acceptable level of risk.

The remainder of Cupertino is protected from flooding by the concrete sub-surface storm drain system. It was designed for the largest storm that could happen once in three years and was redesigned in 1977 for a 10-year flood. All new development will have the larger system. In the meantime, the key parts of the older system will be updated through the long-term capital improvements program.

The City has not studied in detail the carrying capacity of the system for larger floods, but in general a moderate storm, a 10-year to 40-year flood, will be contained within the curbs and gutters of the streets and will flow into major storm channels and creek beds designed to handle a 100-year flood. Heavier storms may cause some flooding of yards, but it would be extremely unlikely for water to enter buildings. A few areas in Cupertino, including Old Monta Vista, and older areas next to the foothills, are not protected by storm water systems. It is difficult, if not impossible, to predict the location and extent of flooding in smaller isolated areas. In any case, the risk to life is virtually non-existent.

Heavy rainstorms in the foothills and mountains of the planning area generally do not cause flooding problems. A report sponsored by the Divisions of Mines and Geology showed that all streambeds can carry a 200-year flood.

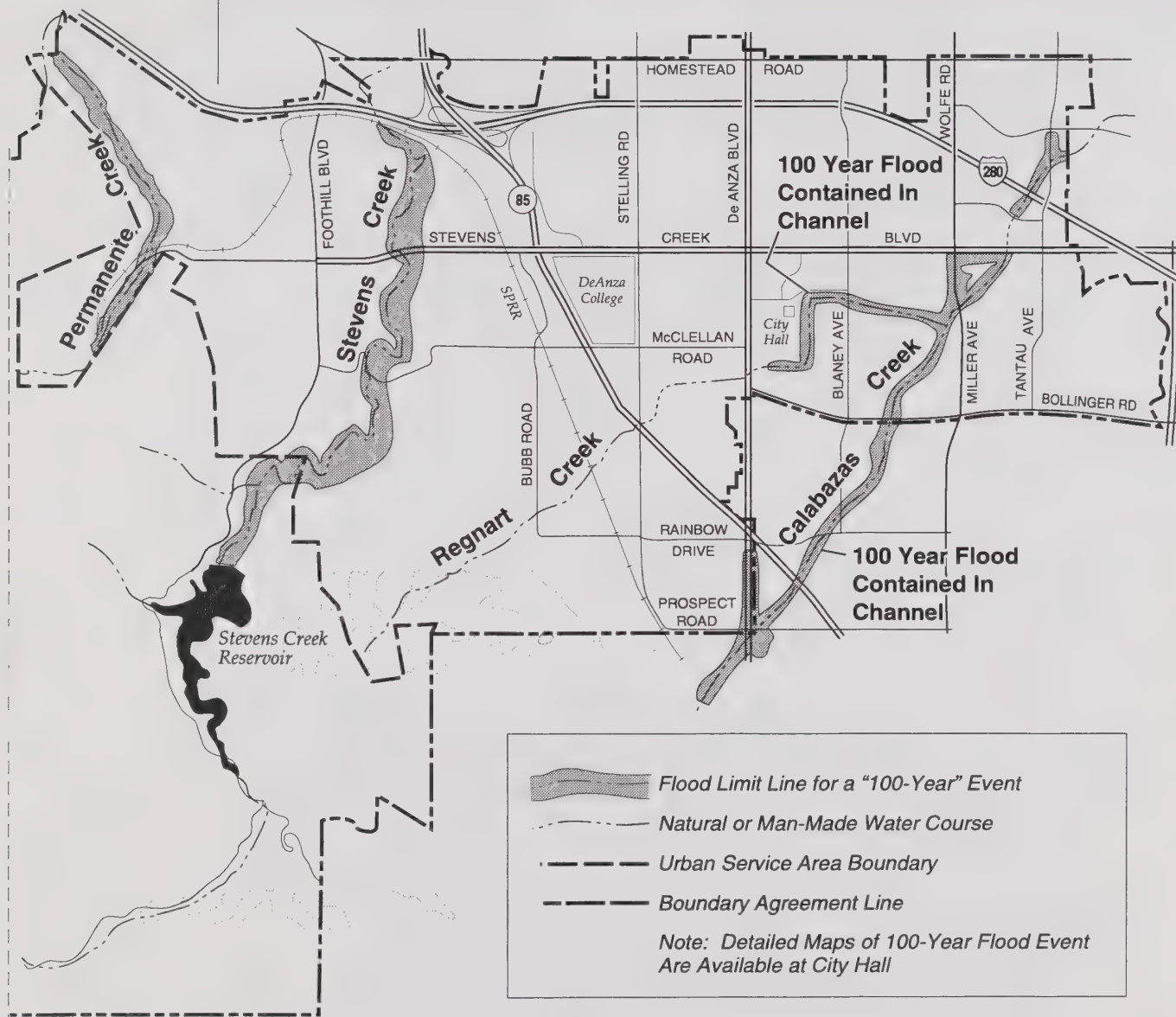


Figure 6-I. Extent of Flooding as a Result of a "100-Year" Flood.

Landslides and mudslides are the main problems caused by heavy rainstorms. These happen when heavy sheet flows of water expose cut-and-fill slopes. Unless the slopes are protected by erosion control methods, there will be landslides and mudslides, which silt up streambeds.

Flood Hazard from Failure of Water-Storage Facilities

Figure 6-J shows the location and size of water-storage facilities in the planning area. It describes the flooding if Stevens Creek Reservoir should fail instantaneously. The flooded area is based on the maximum storage capacity of 3,700 acre feet. This reservoir dam was strengthened in 1986, allowing the dam to operate at its capacity.

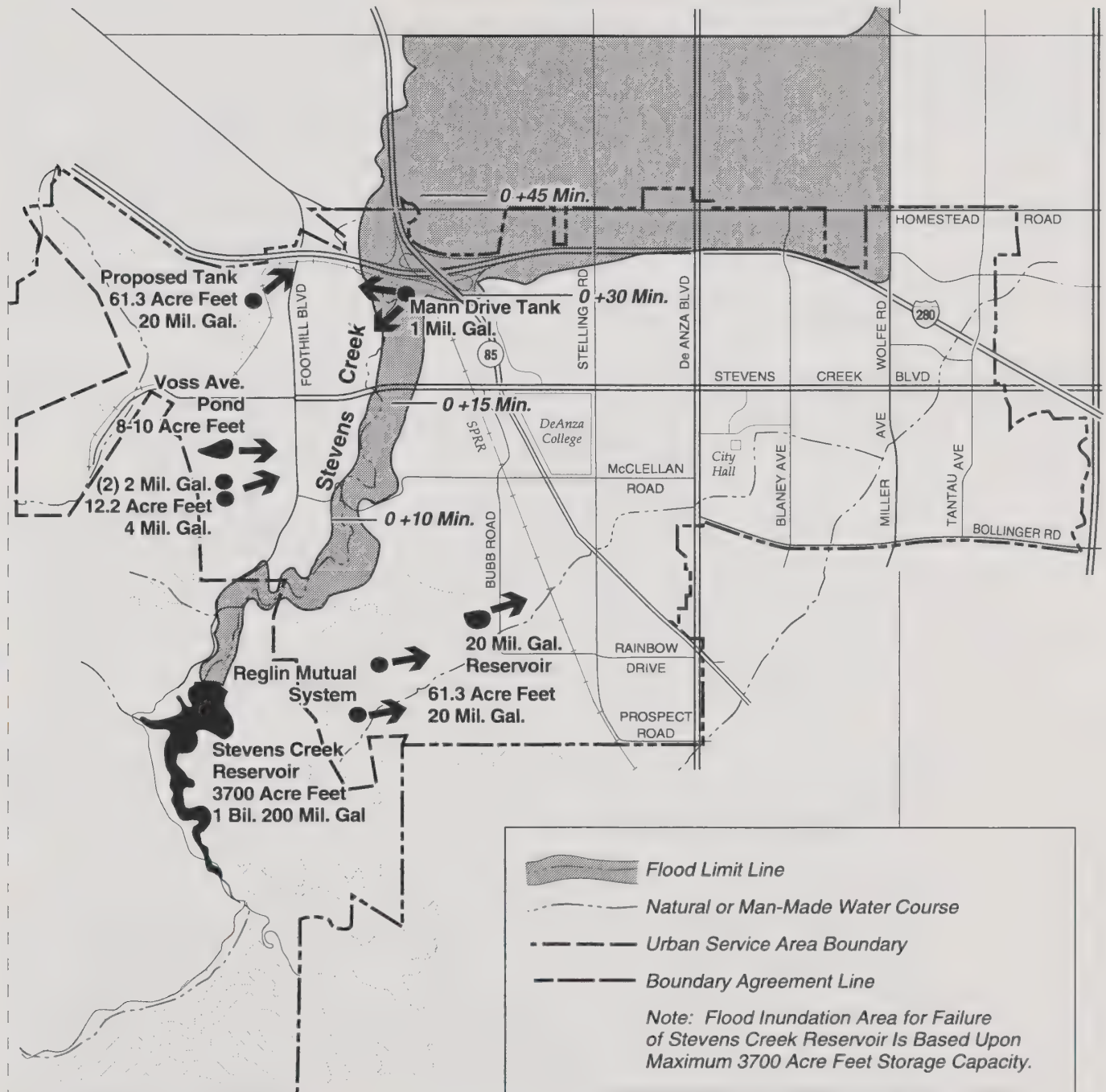


Figure 6-J. Extent of Flooding as a Result of Failure of Man-Made Water Storage Facilities.

The storage tanks shown on Figure 6-J are considered a minimal risk, but there is a possibility of injury and property loss for homes located near these tanks if they were to fail. Owners of such tanks are not required under law to prepare flooding maps and none have been prepared by water utilities. The San Jose Water Company has installed flexible couplings and check valves in the 20-million-gallon Regnart Road Reservoir to minimize valve and water line failure during an earthquake. The City's two water tanks, each holding 2 million gallons, do not have a check valve or flexible couplings. The 8-to-10 acre-foot Voss Avenue Pond was determined to be safe by an engineering consultant.

Flood Hazard From Landslides

A landslide could occur within a steep ravine in the foothill fringe in the more mountainous terrain outside the Urban Service Area boundary. If there is a landslide in a ravine serving a relatively large watershed, water could collect behind the landslide debris and eventually collapse the debris wall, resulting in a wall of water cascading down the ravine, injuring people or damaging property. The watersheds in this area are relatively small, so the risk of floods caused by landslides is minimal. There is a massive ancient landslide west of Stevens Creek Reservoir but it would not be a flood hazard or result in an unstable pond.

Acceptable Level of Risk

There is low risk from flooding in Cupertino and its planning area. There is an extremely low risk from flooding if Stevens Creek Reservoir were to fail. Sometimes rain-swollen flood channels cause drowning when people fall into them or venture out onto them in boats.

It is possible to design flood protection for a 500 to 1,000-year flood, but it would be extremely expensive in relation to the property's land-use activity. For example, it would not be cost effective to construct a flood works to protect grazing or agricultural land next to a stream. It is more prudent to protect a housing development and essential to protect a critical facility such as a hospital.

Policies

The Santa Clara Valley Water District and the City are actively involved in programs to minimize the risk of flooding. The City developed a flood plain land use policy for the non-urbanized reach of Stevens Creek south of Stevens Creek Boulevard. This ensures that the area flooded in a 100-year flood would be preserved and protects the natural stream-side environment.

The City and the water district developed an unusual flood management program for the reach of Stevens Creek between Interstate 280 and Stevens Creek Boulevard. The strategy is to keep the natural environment of Stevens Creek even though structural improvements would be necessary to protect properties from a 100-year flood. The majority of people living in the Phar Lap Drive and Creston neighborhoods agreed to accept a higher level of flooding risk with the understanding that risks would be partially lowered by using the Federal Flood Insurance Program and installing a flood warning system. The strategy also includes building a new conduit on Interstate 280 to reduce the barrier effect of the freeway itself, which was built across the natural flood plain.

Policy 6-20: No New Construction in Flood Plains

Adopt stringent land use and building code requirements to prevent new construction in already urbanized flood hazard areas recognized by the Federal Flood Insurance Administrator. For example, the finished floors of new construction must be higher than the water level projected for the 100-year flood. A description of flood zone regulations and a map of potential flood hazard areas will be published in the Cupertino Scene.

SEE POLICIES 2-61
THROUGH 2-63

Policy 6-21: Prohibit Dwellings in Natural Flood Plain

Continue the policy of prohibiting all forms of habitable development in natural flood plains. This includes prohibiting fill materials and obstructions that may increase flood potential downstream or modify natural streambanks.

SEE MUNICIPAL
CODE CHAPTER 16.52

Removing sediment from drains is one of the major expenses of the City and the water district. The sediment is caused by natural erosion as well as erosion induced by development, mostly in the hillsides. The City's Hillside Development Ordinance requires private hillside construction to install erosion control measures on all cut-and-fill slopes including roadways, driveways, and house pads. Sediment increases flood risks and clogs the natural percolation function of streambeds, which replenish the groundwater table.

Policy 6-22: Restrict Hillside Grading

Continue to restrict the extent and timing of hillside grading operations to April through October. Require performance bonds during the remaining time to guarantee the repair of any erosion damage. All graded slopes must be planted as soon as practical after grading is complete.

Most water-storage facilities shown in Figure 6-G are designed to withstand ground shaking. If the magnitude of ground shaking was not previously assessed or if the water facilities were designed before new standards were developed, the City should re-evaluate the design, if the facility is publicly owned. If privately owned, the City should or strongly suggest that the owners evaluate the structural integrity based on the maximum possible earthquake on the San Andreas fault, including an evaluation of the possible area of flooding.

Policy 6-23: Evaluate City Water-Storage Facilities

Program necessary funds to evaluate the structural integrity of municipal water-storage facilities, including distribution line connections and any necessary repairs. Possible flood speeds and flooded areas should be included. The study consultant will confer with the City's geological consultant to determine the geology and the maximum expected ground shaking intensities of the tank site.

SEE MUNICIPAL
CODE, TITLE 10

Noise Pollution

Freedom from excessive noise is a major factor in maintaining a high degree of quality of life. The noise environment is an accumulation of many different sources ranging from common machinery to the major source, street and freeway traffic. Table 6-F lists some common noise sources and their sound levels.

The degree to which noise is irritating depends on a variety of factors, some independent of the noise source itself. Time of day, background sound level, the listener's activity and surrounding land use can all influence the degree to which a particular sound is perceived as annoying. Value judgments also enter into tolerance for urban sound levels. Emergency sirens and loud lawnmowers are tolerated by most people because they represent necessary actions, public safety and neighborhood upkeep. However, loud noises from cars with defective or modified mufflers are usually greeted as annoyances.

Overall noise levels seem to be increasing despite efforts to identify and regulate noise sources. Truly effective solutions to the noise problem will probably require lifestyle changes and tradeoffs between freedom from government intervention in personal lives and the convenience and economy of using noisy devices. It's not possible to control all city noise sources but some regulation is needed to offset negative results of excessive noise.

Effect of Noise on People

Noise can affect the physical, social, psychological and economic well-being of community residents. The effects can be more intense for sensitive receptors such as residences, schools and parks adjacent to major noise sources. Excessive noise can result in temporary or chronic hearing loss and physiological damage to the inner ear. Noise can disturb privacy, worsen mood, disturb relaxation and interrupt sleep. It can interfere with speech and confuse other auditory signals. Diminished worker efficiency and economic loss can result if noise disrupts the performance of complicated work tasks. All of these stresses are reasons for trying to control the effects of urban noise. The next section outlines and discusses various measures the City can take to counteract some increasing noise irritations.

Table 6-F. Sound Levels and Loudness of Illustrative Noises in Indoor and Outdoor Environments.

dB(A)	Overall Level (Sound Pressure Level = .0002 Microbar)	Community (Outdoor) (1)	Home or Industry (Indoor)	Loudness (Human judgment of diff. sound levels)
130		Military Jet Aircraft Takeoff w/Afterburner From Carrier @ 50 ft. (130)		
120	UNCOMFORTABLY LOUD		Oxygen Torch (121)	120dB(A) 32 times as loud
110		Turbofan Aircraft Takeoff @ 200 ft. (118)	Riveting Machine (110) Rock-n-roll Band (108)	110dB(A) 16 times as loud
100	VERY LOUD	Jet Flyover @ 1000 ft. (103) Boeing 707 @ 6000 ft. before landing (108) Helicopter @ 100 ft. (100)		100dB(A) 8 times as loud
90		Power Mower (96) Boeing 737 @ 6000 ft. before landing (97) Motorcycle @ 25ft. (90)	Newspaper Press (97)	90dB(A) 4 times as loud
80		Car Wash @ 20 ft. (89) Prop Plane flyover @ 1k' (88) Diesel Truck 40mph @ 50' (84) Diesel Train 45mph @ 50' (83)	Food Blender (88) Milling Machine (85) Garbage Disposal (80)	80dB(A) 2 times as loud
70	MODERATELY LOUD	High Urban Ambient (80) Pass. Car 65mph @ 25ft. (77) Freeway @ 50ft. frm. Pavement Edge (70-82)	Living Room Music (76) TV-Audio, Vac. Clnr. (70) Cash Reg. @ 10' (65-70) Elec. Typwrtr. @ 10' (64) Dishwasher @ 10' (60)	70dB(A)
60		Air Cond. Unit @ 100ft. (60)	Conversation (60)	60dB(A) 1/2 as loud
50	QUIET	Large Transformer @ 100' (50)		50dB(A) 1/4 as loud
40		Bird Calls (44)		
10	JUST AUDIBLE	(dBA Scale Interrupted)		
0	Threshold of Hearing			

(1) Not all distances of measurement are identified. Varying distances will make a difference in noise levels.

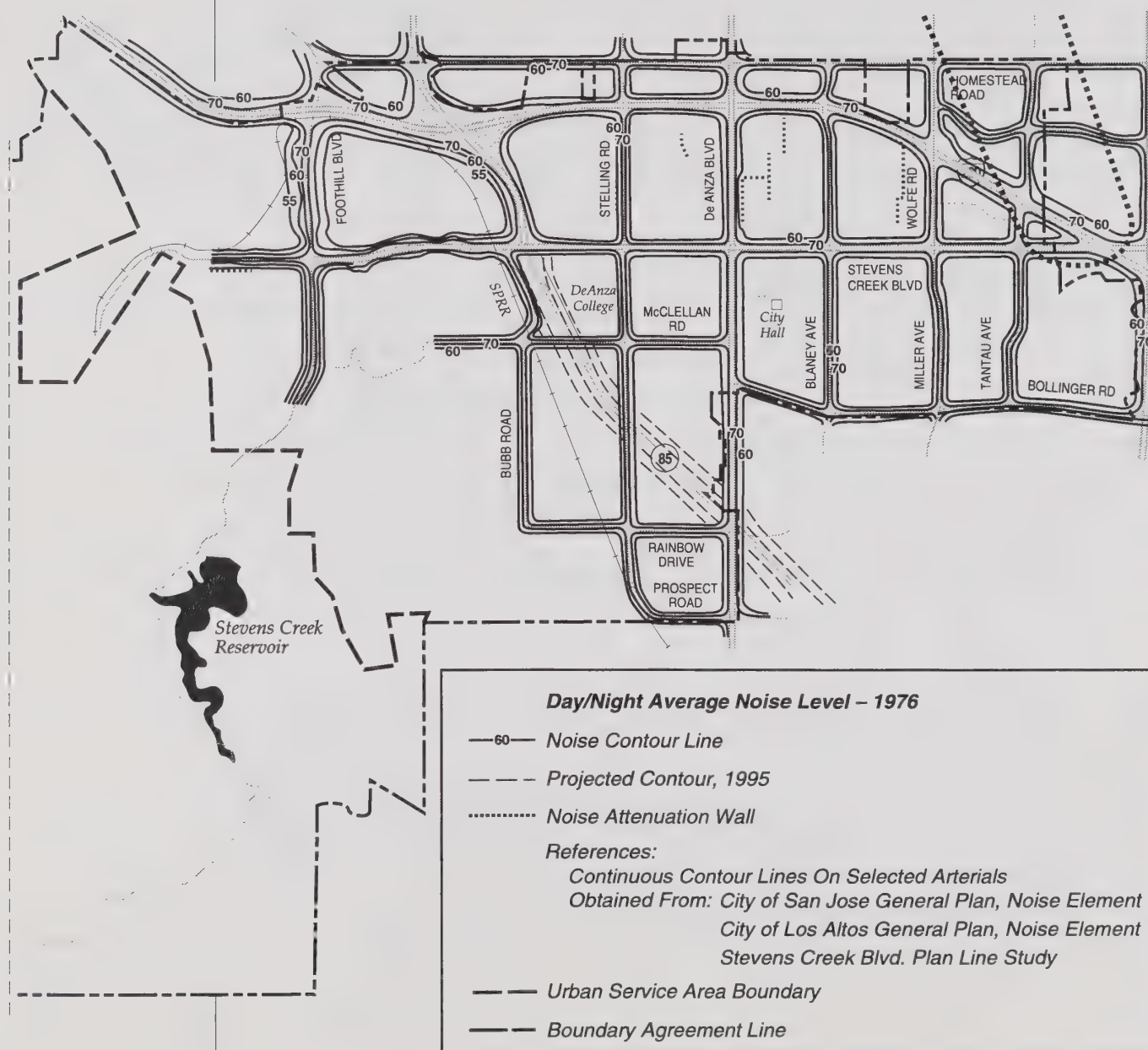


Figure 6-K. Noise Contour Map.

Policy Framework

This section gives a policy framework for guiding future land use and urban design decisions and contains a system of control and abatement measures to protect residents from exposure to excessive or unacceptable noise levels. Policy objectives will be identified and analyzed according to land-use compatibility, noise sources related to and not related to transportation, and will include discussion of the severe effects of quarry truck traffic.

Acceptable noises do not disturb commonly recognized activities, such as conversation and rest. Various studies have established maximum interior noise levels that will en-

sure undisturbed conversation and relaxation. Exterior noise environments are more difficult to analyze and control. The ability to speak at close range in a normal voice seems to be a reasonable standard with which to judge outside noises. This section outlines techniques to help protect interior and exterior environments from disruption by city noise for comfortable daily living.

Land Use Compatibility

A STRIVE TO ENSURE A COMPATIBLE NOISE ENVIRONMENT FOR ALL EXISTING AND FUTURE LAND USES.

Many undesirable noise effects can be reduced or avoided if noise conditions are considered when assigning uses to specific land parcels. Noise cannot and should not be the primary factor considered in land use analysis, but the City should strive to match land uses to compatible noise levels.

Compatibility may be achieved by locating land use types outside of designated noise impact areas or by requiring modifications including setbacks, noise walls, building insulation or landscaping.

The Cupertino Municipal Code, Section 10, outlines the maximum noise levels on receiving properties based upon land use types.

Policy 6-24: Land Use Decision Evaluation

Use Figures 6-K, 6-L, 6-M and the City Municipal Code to evaluate land use decisions.

Strategy

Noise Review of New Development. Review the proximity of new or significantly remodeled housing to the traffic noise corridor by using the noise contour map and review the results of previous noise standards to see if the standards can be complied with through conventional construction practices. If there is not enough information, the staff may ask the developer to provide an acoustical analysis along with the application. The applicant may appeal staff recommendations to the Planning Commission.

Transportation Noise

B WORK TO REDUCE THE NOISE IMPACT OF MAJOR STREETS AND FREEWAYS UPON CUPERTINO.

Traffic noise is the greatest contributor to noise pollution in Cupertino and one of the most difficult to control through local effort. Cupertino is crossed by two major freeways and three major arterial streets.

Cupertino is fortunate that significant portions of Highways 85 and 280 are recessed because this helps lessen noise in the surrounding neighborhoods. Freeway noise, at a con-



SEE NOISE
ORDINANCE





s of a direct threat to neighbors. Commuters use local north-south streets heavily and greatly increase local traffic congestion, air pollution and noise.

The impacts of heavy traffic on local roads may be reduced when traffic is diverted to Highway 85 (1994-1995). The addition of traffic on Highway 85 will increase noise levels for residences adjoining the right of way. When the roadway opens, the residences will experience a significant increase over existing noise levels because the residents are not currently experiencing roadway noise from this location. Noise impact analyses prepared for the proposed highway indicate that typical noise levels may increase 4 to 10 decibels. These increases include the mitigation measures of a depressed roadway and noise barriers. The maximum noise levels are predicted not to exceed the State maximum of 64 decibels. About 2,460 of Cupertino's 17,000 homes are exposed to excessive noise levels greater than 60 decibels.

Table 6-G. Noise Exposure Index (L_{dn} , 60 dB and above).

	Existing Units	Population	Future Units	Population*	Total Units	Population
R-1	1550	4154	340	911	1890	5065
R-2 R-3	560	1500	10	26	570	1526
TOTAL	2110	5654	350	937	2460	6591

* Future impacted areas result from Highway 85 extension to Saratoga Sunnyvale Road and from Bollinger Road extension to Stelling Road

NOTE: Population multiplier = 2.68 persons/household based upon the Association of Bay Area Governments Projections '90.

When we compare the Municipal Code allowed maximum noise levels to the existing (Figure 6-K), the majority of locations are currently experiencing noise levels above the maximum.

New development in these areas will be required to build and incorporate design strategies outlined in the policies of this document to meet the maximum allowed internal and external noise levels.

■ Policy 6-25: Freeway Design and Neighborhood Noise

Ensure that roads along the West Valley Transportation Corridor are designed and improved in a way that minimizes neighborhood noise.

■ Policy 6-26: Support Stricter State Noise Laws

Continue to support enactment of stricter state laws on noise emissions from new motor vehicles and enforce existing street laws on noise emissions.

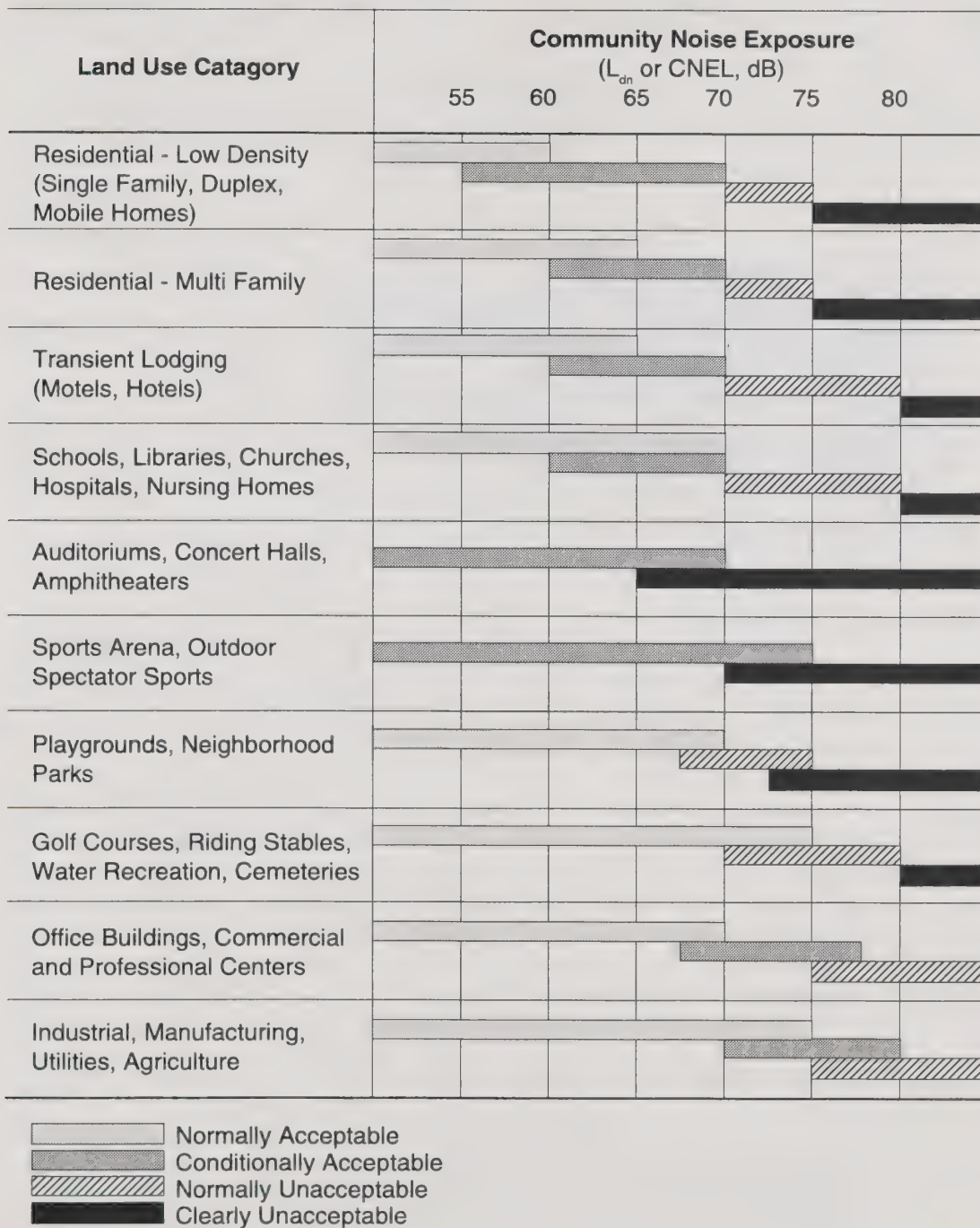


Figure 6-L. Land Use Compatibility for Community Noise Environments.

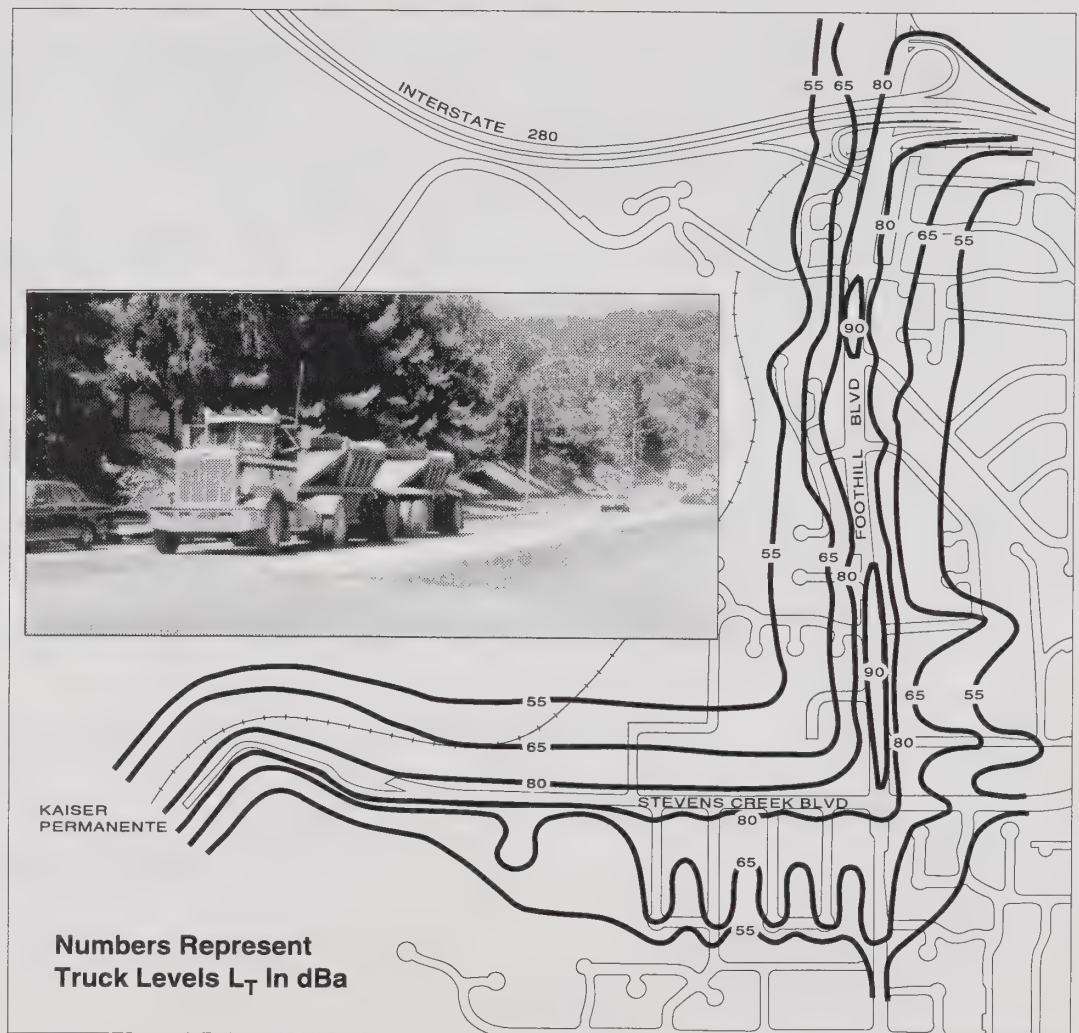


Figure 6-M. Equal Noise Level Contours.

LOCAL STREETS/NEIGHBORHOOD PROTECTION

Neighborhood streets are especially sensitive to noise abuse. When considering neighborhood noise policies, a balance must be achieved between the resident's need to drive and the need to keep emergency vehicle response time to a minimum.

■ Policy 6-27: Neighborhood Need Priority

Continue to review the needs of residents for convenience and safety and make them a priority over the convenient movement of commute or through traffic where practical.

Policy 6-28: Solutions to Street Abuse

Continue to evaluate solutions to discourage through traffic in neighborhoods through modified street design. Examples include meandering streets, diverters, landscape islands, street closures and wide parking strips.

Strategy

Local Improvement Districts. Use of modified street design may require funding through the creation of local improvement districts.

Train and Aircraft Noise

Trains and aircraft do not contribute much to noise in Cupertino. Aircraft flying into Moffett Field Naval Air Station are restricted to the northeastern corner of Cupertino, affecting some residents of the Rancho Rinconada neighborhood. Cupertino's one railroad line passes through the Monta Vista neighborhood and connects with the Kaiser Permanente Plant in the Western foothills. There is one train daily (2 trips - one in, one out) which occurs usually in the early evening hours. Noise levels associated with the trains are approximately 85-90 decibels at a distance of 50 ft. from the track for a period of two minutes. There are no noise protection devices along the rail corridor, and if increases in rail activity occurs, sound walls or other mitigation may be required, as well as placing a deed restriction on the adjoining property notifying future property owners that the noise standard will be exceeded.

Truck Traffic

The most crucial example of traffic noise intrusion on the quality of neighborhood life is the effect of heavy duty truck trips to and from the Kaiser Permanente Plant and Voss Road Quarry located in the western foothills near Stevens Creek Boulevard and Foothill Boulevard. There are about 1,500 trips each working day, which generate up to 90 decibel noise levels next to the road. When trucks speed up, slow down or use their high-powered brakes on the unusually steep road, the truck noise problem is worsened.

Policy 6-29: Noise Improvement by Restricting Trucks

Continue to work toward improving the noise environment along Foothill Boulevard and Stevens Creek Boulevard by restricting quarry truck traffic especially during late evening and early morning hours. It is preferable that the restrictions be voluntary. Encourage alternative to truck transport, specifically rail, when feasible.

A study prepared by professional acoustical engineering consultants suggested a series of measures to diminish noise for homes along the truck traffic corridor. Reducing truck travel and carrying out these measures could give some relief to the residents most severely affected.

SEE PLANNING
DEPARTMENT FILE
NO. 81,005.5

■ **Policy 6-30: Reduction of Noise from Kaiser Permanente Trucks**

Work to carry out noise mitigation measures listed in the Edward L. Pack and Associates report (County of Santa Clara) to diminish noise from Kaiser Permanente truck traffic for homes near Foothill and Stevens Creek Boulevards.

Strategy

Noise Notification in Deeds. Require, as a condition of development approval, that deeds of property in the area affected by the noise contain notices informing buyers of the noise problem.

Non-Transportation Noise Sources

C PROTECT RESIDENTIAL AREAS AS MUCH AS POSSIBLE FROM INTRUSIVE NOISE GENERATED BY SOURCES OTHER THAN TRAFFIC.

Noises not generated by traffic are typically stationary and/or sporadic. They have a relatively minor affect compared to traffic noise, but noises such as permanent equipment (refrigeration or air conditioning units or other related pumps), barking dogs and rattling of garbage cans when people are trying to sleep can be annoying and disruptive. Complete regulation of these noises is unlikely, but the City can work to protect neighborhoods from excessive noise and require compliance with the noise standard during the evening and early morning, when ambient noise levels tend to be lower.

Short term noise sources are also disruptive. Temporary activities such as construction can often last for several months and generate a substantial number of complaints. Some are unavoidable, but superior muffling devices for construction equipment can reduce noise from jackhammers, portable compressors and generators. The days and hours of construction operations are controlled by City Ordinance. Policies are provided to limit noise levels. In several cases building construction is stopped during evenings and weekends.

Adjoining Dissimilar Land Uses

People who live near commercial loading docks often complain of late night and early morning disturbances. Similarly, those who live near industrial areas are often annoyed by sounds from chemical storage plants, and the general manufacturing process. It's easy to anticipate these problems but it's hard to resolve them in the development review process because economic interests and property rights must be balanced.

Policy 2-19 of the Land Use/Community Character Element of this plan gives a strategy for design controls to ensure a more peaceful co-existence between neighboring different land uses. These should be studied carefully at the beginning of a commercial or industrial project that will adjoin homes.





Policy 6-31: Commercial Delivery Areas

Be sure new commercial or industrial developments plan their delivery areas so they are away from existing or planned homes.

Policy 6-32: Limit Delivery Hours

Continue active enforcement of Section 10.45 of the Municipal Code limiting commercial and industrial delivery hours adjoining residential uses.

Policy 6-33: Noise Control Techniques

Continue to require analysis and implementation of techniques to control the effects of noise from industrial equipment and processes for projects near homes.

Policy 6-34: Restrict Hours of Construction Work

Continue to restrict non-emergency building construction work near homes during evening, early morning, and weekends.

Policy 6-35: Comprehensive Noise Ordinance Development

Develop a comprehensive noise ordinance that gives time restrictions on commercial and industrial deliveries, and establishes procedures for regulating noisy animals.



Noise Attenuation

D ENCOURAGE TECHNIQUES TO DIMINISH NOISE WHEREVER THEY CAN PRODUCE PRACTICAL AND DESIRABLE RESULTS.

Reducing noise intrusion into residences can be accomplished in the same way homes are insulated against cold. Leaks around doors, windows, vents or through open fireplace dampers, as well as single-glazed windows and lack of seals or weatherstripping, increase noise intrusion and can be remedied. Sound is pervasive in cities and it's difficult to control exterior noises.

Different noise control techniques can be used with varying degrees of success. Each site should be evaluated to find the best combination of noise control devices. Here is a summary of common techniques and their uses.

Barriers

Solid noise walls can reduce noise from 5 to 15 decibels or more. Their effectiveness depends on the relative grade of the roadway, the distance of the listener from the center line of the nearest road, placement and height of the noise wall in relation to the receptor line, the size and location of the area to be protected and the frequency of the noise source. The barrier is more successful with higher-pitched noise and is usually more effective when located close to the source or to the listener, assuming that both are below the top of the barrier.

Noise barriers can be ugly and can wall in or separate neighborhoods. Landscaping is a less expensive and effective way to make the walls more attractive and will also reduce sound reflection from the walls. Evergreen and vines should be planted along the roadway side. Reflection can increase noise levels on the opposite side by as much as 1 to 3 decibels.

■ **Policy 6-36: Noise Wall Requirements**

Exercise discretion in requiring noise walls to be sure that all other measures of noise control have been explored and that the noise wall blends with the neighborhood.

Strategy

Special Assessment Districts for Noise Control. Help form special assessment districts to install noise barriers where single-family homes back up to major streets. Landscape all walls on the street side.

Landscaping and Setbacks

Landscaping and setbacks for small properties do not work well in reducing noise. Plants and trees are not dense enough to prevent air flow. Setbacks must be substantial to make a difference in noise. Noise goes down about 3 decibels for heavy traffic and about 6 decibels for light traffic every time the setback from the center line of the roadway is doubled. This figure, from the Santa Clara County Noise Element, shows the effects landscaping and setbacks have on noise.

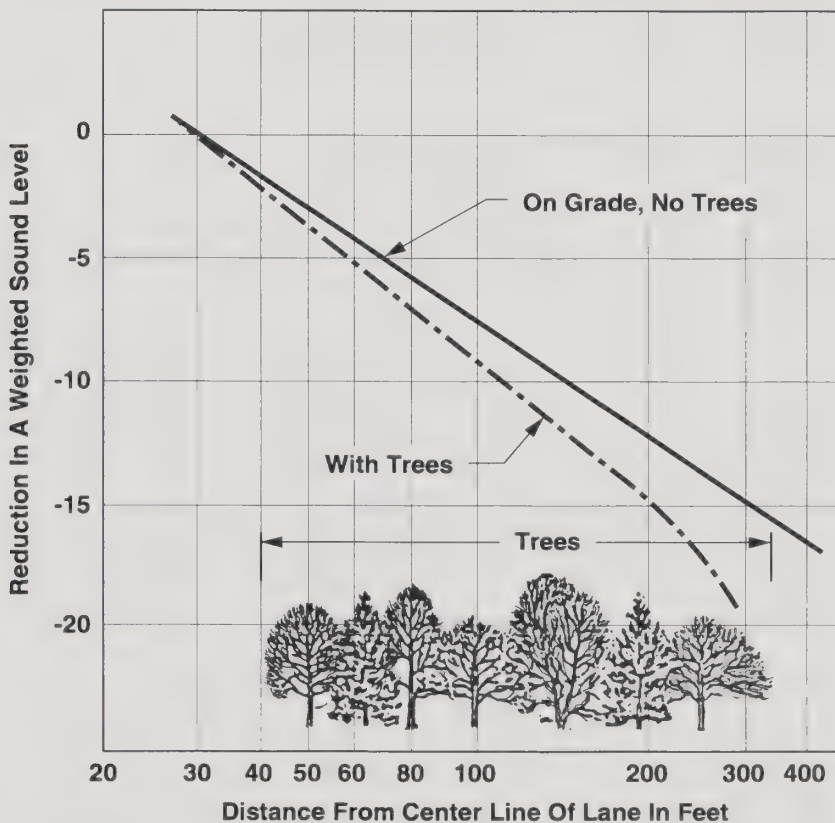


Figure 6-N. Setback and Noise Reduction.

SEE UNIFORM
BUILDING CODE

Building and Site Design

Building and site design techniques can control noise effectively in new developments or when existing buildings are modified. Sensitive areas can be set back or buffered by buildings, parking or recreation areas. Homes can use rooms such as kitchens, bathrooms and garages to buffer the more sensitive bedrooms and living rooms. Buildings should face solid walls onto the noise source and be sure that no vents or other air leaks face the noise source.

INSULATING BUILDINGS FROM NOISE

Conventional building practices will achieve noise reductions from adjoining roadways of between 10 and 20 decibels.

This table, from the Santa Clara County Noise Element, shows noise reduction from typical building types.

Table 6-H. *Approximate Noise Reduction Achieved by Exterior of Common Structures.*

Bldg. Type	Window Condition	Reduction of Noise from Outside Source	Max. Exterior Noise level Matched to Achieve 45dBA Interior Design Stnd.
All	Open	10 decibels	55 dBA
Light Frame	Ordinary sash, closed	20 decibels	65 dBA
Masonry	Single pane, closed	25 decibels	70 dBA
Masonry	Standard dbl. pane, closed	30 decibels	80 dBA

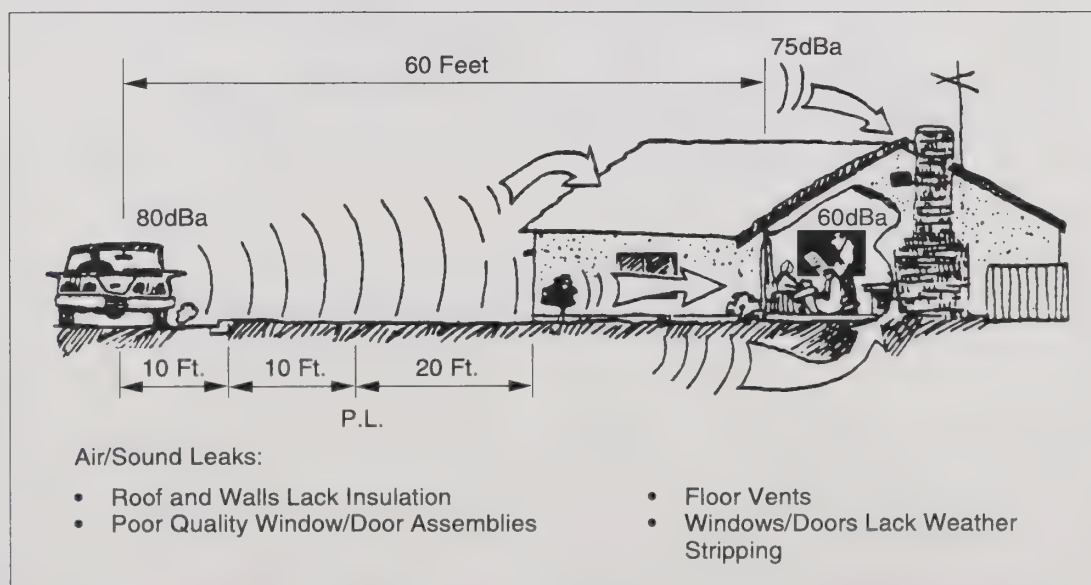


Figure 6-O. *Typical Structure Exposure to Noise.*

Crime

The City's commitment to public safety encompasses two broad areas of responsibility. First is the direct provision of public safety services and the planning necessary for prevention of crime. Second is planning for a safe environment in which the public is not exposed to unnecessary risks to life and property.

Cupertino has a very low crime rate which can be partially attributed to project design techniques and active community involvement. However, changes in future development patterns may affect public safety. An increase in retail activities may increase thefts and related criminal activity. An increase in growth may increase vehicle traffic, which increases the risk of automobile accidents. Both relate to a need for additional public safety services.

The City recognizes the sociological and psychological effects of the physical environment on human behavior and conducts pre-hearing review meetings for all new projects. This occurs early in the planning process and involves the Santa Clara County Sheriff's Department commenting on safety issues.

Park Design

People who live next to neighborhood parks have had problems with nuisance and criminal behavior, especially in park areas that are not easily visible from the street.

Future parks will be surrounded by streets where feasible, allowing neighbors and the police to see the park from all sides. This gives people more control over their neighborhoods. Future parks will also take into consideration design techniques to minimize potential vandalism and crime.

SEE OPEN SPACE
POLICIES PAGE 5-17
THROUGH 5-21

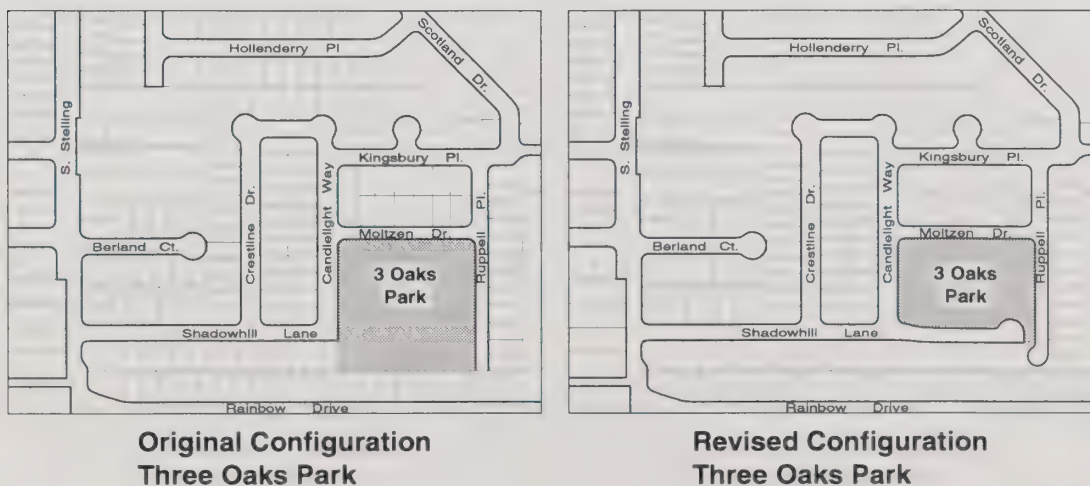


Figure 6-P. "Defensible Space" Park Design.

Cupertino's General Plan stresses protection of visual privacy. This could conflict with the idea of defensible space if privacy design techniques isolate households enough so that people feel they are losing private and semi-private spaces in residential developments.

Design can be used to create social cohesion, important not only for a planned residential community, but in single-family detached homes. For example, someone who lives in a single-family home needs assurance that the neighborhood will support his or her effort to question a stranger parked at the curb or to report a strange car that keeps cruising up and down a street. If the resident thinks that other neighbors don't want to get involved or don't care about strangers in the neighborhood, that person would watch out only for his or her own property. Cupertino has actively supported a Neighborhood Awareness Program that offers advice on crime prevention and encourages neighborhood cohesiveness.

■ ***Policy 6-37: Neighborhood Awareness Programs***

Continue to support the Neighborhood Awareness Program and others intended to help neighborhoods prevent crime through social interaction.

Non-Residential Design for Defensible Space

Using design techniques to prevent crime in non-residential districts is more prevalent than in residential areas. The key is to design buildings to ease police patrol and help community surveillance. Decisions on crime prevention involve tradeoffs between aesthetics and the ease of access for patrol vehicles, as well as tradeoffs between privacy and acoustical protection between commercial properties and adjacent homes.

Commercial office and industrial properties designed with interior garden courts, with private fenced patios and isolated entrances, have more burglaries and robberies than those that are highly visible. Masonry barriers, earth mounds and landscaping beds are typically used to isolate parking lot noise in commercial operations. The County Sheriff's Office, which provides police service in Cupertino, believes that these solutions do not increase burglary in adjoining homes.

■ ***Policy 6-38: Public Perimeter Roads for Parks***

Encircle neighborhood roads with a public road to provide visual accessibility whenever possible.

■ ***Policy 6-39: Crime Prevention in Building Design***

Consider the relationship between building design and crime prevention in reviewing all developments. Develop criteria with help from the Sheriff's Office to determine the degree to which crime prevention standards should override esthetic concerns.

■ ***Policy 6-40: Fiscal Impacts***

Recognize fiscal impacts to the County Sheriff and City of Cupertino when approving various land use mixes.

■ ***Policy 6-41: Pre-hearing Review***

Continue to request County Sheriff review and comment on development applications for security measures.

Disaster Planning

Under state law, cities must prepare an emergency plan to respond to natural, man-made or other disasters that threaten the health or property of their residents. The City's Emergency Plan mainly establishes an organizational framework to enable the City to prepare for its emergency response activities and to coordinate with county and state agencies. Effective communications is one of the primary objectives of the Emergency Plan.

The Cupertino Emergency Plan

The City's Emergency Plan is based upon the State's Multi-hazard Functional Emergency Plan and uses the Incident Command System as the management structure. Within this organization, the City Manager becomes the Director of Emergency Services when a local emergency is declared. Department directors or their pre-designated alternates are trained in the roles of Operations, Human Services, Finance or Resources in the Emergency Operation Center (EOC). There are three parts to the Emergency Plan. The first part is the legal requirements, the second is the descriptions of the functional responsibilities and checklists of the members of the EOC, and the third is sample forms, resource lists and references. The plan is reviewed annually through disaster drills.

Cupertino constructed an Emergency Operations Center (EOC) on the lower floor of City Hall. An emergency diesel generator and telephone equipment were installed along with a cooperatively operated amateur radio communication system to supplement publicly sponsored emergency channels. The EOC to EOC radio at City Hall is duplicated at the Service Center.

All city employees are designated as Disaster Service Workers. As such, they receive training in home preparedness skills and emergency response responsibilities. Additional classes are offered in first aid and CPR, search and rescue and damage assessment. April is Earthquake Preparedness Month, and all employees are reminded of preparedness steps to take at home and at work. Staff assigned to the EOC participate in at least one training exercise per year.

■ ***Policy 6- 42: Emergency Service Training Program***

Continue to train employees annually in disaster preparedness, first-aid and CPR.

■ ***Policy 6-43: Ham Radio Operators***

Continue to support the training and cooperation between the city and ham operators to prepare for emergency communications needs.

Strategy

Activate the Public Information Office. Activate the Public Information Office either in the Emergency Operations Center or in City Hall as quickly as possible after an emergency.

Immediately following a major emergency, police, fire and medical services will be spread very thin. Residents are developing self-reliance in first aid and the storage of food, water and other essentials. The October 17, 1989 Loma Prieta Earthquake motivated many residents to host emergency preparedness presentations in their homes. This service continues to be offered to neighborhoods, businesses and schools. A Memorandum of Understanding between Cupertino Community Services and the City of Cupertino describes the use of pre-registered and volunteers at the Quinlan Community Center. These volunteers are also being trained and integrated into the emergency preparedness program.

A large earthquake could isolate Cupertino from major full-service hospitals (Figure 6-Q). City personnel and local physicians will be ill-equipped to meet the emergency needs of residents if a major earthquake strikes.

■ **Policy 6- 44: Community Preparedness**

Continue to provide training to the community on self-preparedness for emergencies.

■ **Policy 6-45: Informed Citizenry**

Use the Cupertino Scene and other communication methods to inform residents that they have a responsibility to be prepared for emergency disasters and give information on how to achieve this self-reliance.

■ **Policy 6- 46: Business Storage Containers for Emergency Supplies**

Prepare an ordinance for businesses that defines policies for establishing an emergency supply container on a business property.



Figure 6-Q. Areas Potentially Isolatable in a Seismic Emergency.

Cupertino planned the construction of an EOC in the City Hall basement in 1980. Emergency diesel generator and telephone equipment is installed. The EOC is located on the lower floor, rooms C and D, of City Hall. The communications room including Amateur Radio Equipment and the EOC to EOC radio is adjacent to the EOC. The Service Center has an alternate EOC with duplicate communications equipment.

Policy 6-47: Emergency Operation Center

Continue to annually train all city employees on the operations of the EOC.

Hazardous Materials

Hazardous materials pose a danger to public health and safety. They encompass a broad range of substances, including toxic metals, chemicals and gases, flammable and/or explosive materials and corrosive agents. Yet these materials are recognized as an integral part of society, used to produce manufactured goods which contribute to our economic well-being and quality of life. Hazardous materials are used in manufacturing processes in Santa Clara County and a variety of household chemicals, such as, pesticides, motor oil, cleaners and paint.

The transportation, distribution, storage and disposal of hazardous materials is of great concern to Cupertino. The City has adopted a Hazardous Materials Ordinance which regulates the storage of these materials in solid and liquid form. The City's Toxic Gas Ordinance regulates the storage of these materials which are in gaseous form.

E PROTECT CITY RESIDENTS AND EMPLOYEES FROM THE INHERENT RISKS IN THE TRANSPORTATION, USE, STORAGE AND DISPOSAL OF HAZARDOUS MATERIALS, WHILE RECOGNIZING THAT THE USE OF THESE MATERIALS IS INTEGRAL TO MANY ASPECTS OF SOCIETY.

Policy 6-48: Hazardous Materials Storage

Continue to require the proper storage and disposal of hazardous materials to prevent leakage, potential explosions, fire or the release of harmful fumes.

Policy 6-49: Proximity of Residents to Hazardous Materials

When new residential development or childcare facilities are proposed in existing industrial and manufacturing areas, an assessment of the future residents' risk of exposure to hazardous materials should be completed. Residential development should not be allowed if such hazardous conditions cannot be mitigated to an acceptable level of risk.



Hazardous Waste

Traditionally, the managing of hazardous waste has relied heavily upon land disposal of untreated hazardous wastes. This approach has sometimes led to the contamination of both soil and groundwater and will be prohibited by mid-1990. Beginning in 1990, hazardous waste was required to be treated before disposed on land. To accomplish this, new treatment methods and facilities had to be developed and approved to pre-treat hazardous waste before final disposal.

Under authority of the 1986 "Tanner" Bill (AB2948), Cupertino, along with the cities of Campbell, Gilroy, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga and Sunnyvale has joined with the County to jointly develop a comprehensive and coordinated approach to hazardous waste planning. The County's Hazardous Waste Management Plan (CoHWMP) has been endorsed by the Cupertino City Council, and funding has been provided to implement technical assistance programs in the County's plan, based on the City's proportionate contribution to the total waste stream.

Under the provisions of the State law, the City exercised its option to create a locally administered Hazardous Waste Management Plan (LHWMP). The local plan complements and enhances the County plan, but provides stricter siting criteria for new hazardous waste management facilities, as well as a separate review and permitting process.

Identification of Waste Stream

The LHWMP must identify the components and qualities of hazardous substances generated within the community. Table 6-I fulfills this requirement and is based on Department of Health Services shipping manifests for 1989, the last year for which reliable data is available.

Table 6-I. *Cupertino Waste Stream.*

(By waste category and treatment method for 1989.)

Waste Category		Tons	Treatment Method
123	Unspecified Alkaline Solution	28	Aqueous Treatment / Metal Neutralization
131	Aqueous with Reactive Anions	55.86	Aqueous Treatment / Metal Neutralization
132	Aqueous with Metals	11.58	Aqueous Treatment/Metal Neutralization
134	Aqueous w/organic Residues <10%	8.13	Other Recycling
135	Unspecified Aqueous Solution	18.56	Aqueous Treatment / Metal Neutralization
151	Asbestos Containing Waste	107.00	Stabilization
181	Other Inorganic Solid Waste	44.58	Other Recycling
211	Halogenated Solvents	41.89	Solvent Recovery
212	Oxygenated Solvents	1.93	Solvent Recovery
214	Unspecified Solvent Mixtures	40.07	Solvent Recovery
221	Waste Oil and Mixed Oil	53.84	Oil Recovery
222	Oil/Water Separation Sludge	5.01	Oil Recovery
223	Unspecified Solvent Containing Waste	15.42	Oil Recovery
241	Tank Bottom Waste	10.00	Incineration
261	Polychlorinated Biphenyls	1.46	Incineration
331	Off-Spec., Aged or Surplus Organics	.84	Other Recycling
343	Unspecified Organic Liquid Mixtures	.79	Other Recycling
352	Other Organic Solids	2.13	Oil Recovery
461	Paint Sludge	.47	Incineration
512	Empty Containers > 30 Gal.	102.26	Other Recycling
513	Empty Containers <30 Gal.	1.88	Other Recycling
521	Drilling Mud	1.20	Stabilization
541	Photochemicals	.28	Other Recycling
551	Laboratory Waste Chemicals	.68	Other Recycling
611	Contaminated Soils	273.18	Incineration
731	Liquids with PCB's > 50 Mg/	5.2	Incineration
741	Liquids with Halogenated Organics	1.02	Solvent Recovery
791	Liquids with pH<2	489.67	Aqueous Treatment / Metal Neutralization
Total		1,295.21	

Policy 6-50: Endorse County Hazardous Waste Management Plan

The City shall continue its endorsement of the County Hazardous Waste Management Plan, subject to the following principles:

- Locally adopted criteria for siting of hazardous waste management treatment, disposal or transportation facilities shall take precedence over such criteria in the County plan when City-adopted criteria are more stringent.
- The City will avoid duplication of effort to implement hazardous waste management programs. Priority will be given to cooperative funding support of implementation programs through the County Hazardous Waste Management Plan.

Policy 6-51: Alternative Products and Recycling

Encourage residential, commercial and industrial contributors to the hazardous waste stream to use non-hazardous alternative products and processes and recycle materials in order to retard growth of the waste stream and thus reduce demand for treatment capacity.

Policy 6-52: Household Hazardous Wastes

Continue to work with the County, other cities and interested groups to develop a program for the proper management and disposal of household hazardous wastes that is effective and convenient for residents.

The City is required to identify generalized locations where hazardous waste management facilities could be placed. Figure 6-R describes these generalized industrial locations, but does not necessarily ensure that any particular treatment/disposal facility could be placed in the locations consistent with siting criteria in the County or City HWMP.

Facilities which could typically be placed on sites of the scale available in Cupertino would generally emphasize reclamation or recycling of waste products. However, other TSD (Transfer, Storage or Disposal) facilities could include equipment for stabilization of liquid or gaseous contaminants prior to ultimate disposal outside the city, facilities for reduction or oxidation of compound materials, or equipment for transfer of materials from temporary to permanent storage containers.

There are no sites in Cupertino suitable to the development of a residuals repository facility, due to the large-scale site requirements and region-serving nature of such facilities.

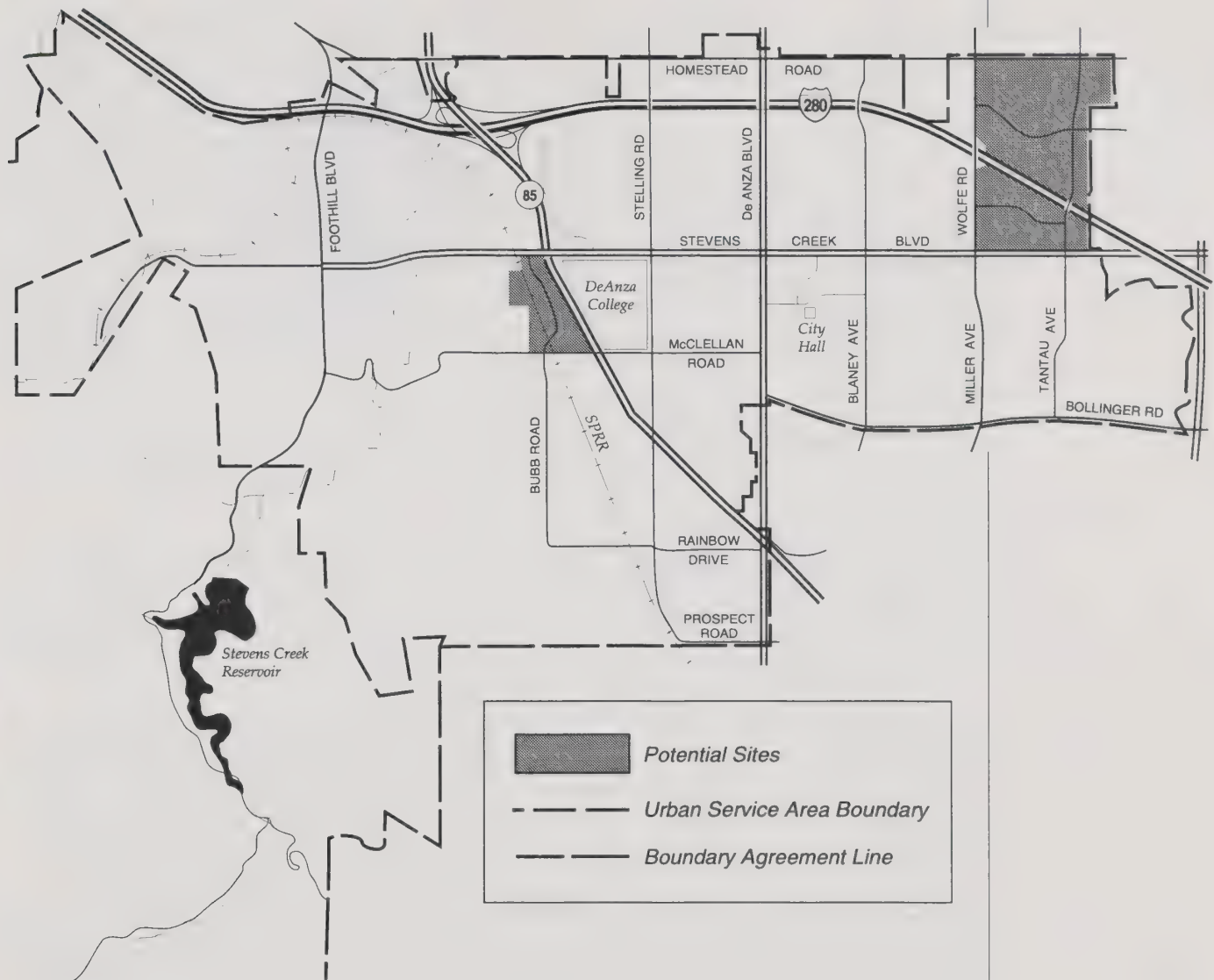
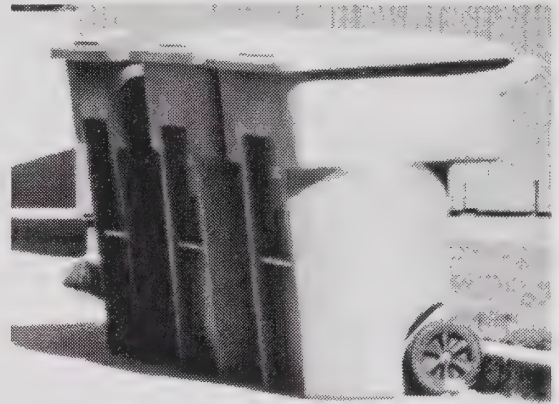


Figure 6-R. Generalized Location of Potential Hazardous Waste Management Sites.

PUBLIC UTILITIES

Solid Waste

Every year, Cupertino residents, businesses and industries dispose of 36,000 tons of solid waste material. Commercial and industrial businesses account for 34% of the total waste disposed, while residential uses dispose of 31%, 34% debris boxes (construction material) with 1.0% being self haul waste.



The composition of the solid waste for commercial is primarily paper, while industrial waste composition is primarily inert waste and organic (textile, wood, etc.) and the majority of residential composition is yard waste and paper products. Many of the current products being disposed could be recycled.

In recent years, regional concerns have been expressed regarding existing landfill capacity and the lack of potential landfill sites to meet future needs. This concern is compounded by a growing recognition of environmental impacts associated with landfill usage. Santa Clara County will exhaust its landfill capacity by the year 2013. All publicly owned landfills are expected to reach capacity in the late 1990s.

To assure adequate landfill capacity to meet future needs, the City of Cupertino has entered into a Joint Powers Agreement with five other northwest cities in Santa Clara County to provide solutions to common solid waste management concerns. In 1989, Cupertino finalized a contract for landfill at Newby Island, located in North San Jose. The term of the agreement is 30 years (2019) or depletion of the tonnage allocated (2,050,000 tons) whichever comes first.

State Assembly Bill (AB939) requires local governments to divert 25 percent of all solid waste from landfill disposal through reduction, recycling and composting by January 1, 1995. The City of Cupertino has met this 25% diversion requirement. The Assembly Bill further requires that by January 1, 2000, the City must divert 50% of the waste stream. This will be more of a challenge for the City but a Source Reduction and Recycling Plan has been completed which outlines how this reduction will be achieved.

The additional source reduction components will include an expansion of recycling efforts to all land uses, streamlining the residential composting program, and public education and information programs. Each of these categories have short-, medium- and long-term goals and implementation programs.

■ **Policy 6- 53: Commercial/Industrial Recycling**

Continue to expand commercial and industrial recycling programs to meet AB939 waste stream reduction goals.

■ **Policy 6- 54: Residential Recycling**

Continue to streamline the residential curbside recycling program in the next decade. All city-wide residential zoning districts should be included in the curbside recycling program.

SEE CITY COUNCIL
RESOLUTION
No. 8759

Policy 6- 55: On-site Garbage Area Dedication

Modify existing on-site waste facility requirements to all multi-family residential, commercial and industrial land uses to have 50% of their garbage area dedicated to recycling and 50% dedicated to solid waste.

Policy 6- 56: Public Education

Continue public education regarding the reduction of solid waste disposal and recycling.

Policy 6- 57: City Staff Recycling

Continue to encourage City staff to recycle at all City facilities.

Waste Water

Waste water collection and treatment in Cupertino is provided by the Cupertino Sanitary District and the City of Sunnyvale. The Cupertino Sanitary District serves the majority of Cupertino. The City of Sunnyvale serves a small portion of the Cupertino Urban Service area within the San Jose Rancho Rinconada area, which is located adjoining Lawrence Expressway on the east side of the City.

The Cupertino Sanitary District collects and transports waste water to the San Jose/Santa Clara Water Pollution Control Plant located in North San Jose. The District purchases water treatment capacity from the plant, and has purchased 8.6 million gallons per day of capacity from the San Jose/Santa Clara Treatment Plant. This purchased capacity is sufficient to meet the projected wastewater treatment needs of Cupertino.

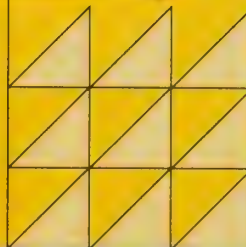
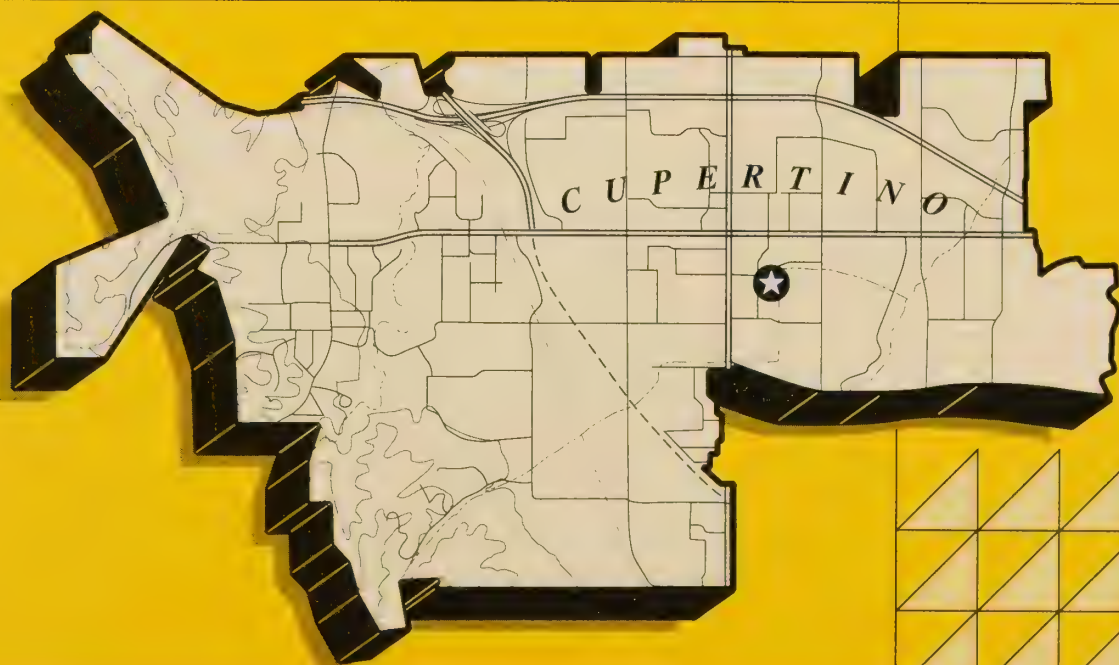
The City of Sunnyvale provides waste water treatment service for two blocks of Cupertino commercial properties along South Stevens Creek Boulevard. This service area also includes unincorporated single family residential properties within the Cupertino Urban Service area. The City of Sunnyvale Wastewater Treatment Plant has a daily treatment capacity of 29 million gallons per day (mgd) of which approximately 15 mgd are being utilized. The City of Sunnyvale can continue to provide treatment capacity for future growth in its Cupertino service area, however, the trunk service mains and other portions of the sewer main system would probably have to be upgraded by the developers, if large industrial users are allowed in the Cupertino service area. It is unlikely though that the Stevens Creek Conceptual Plan will be amended to allow industrial users in this area because of the need to maintain compatibility with adjoining single family residential uses.

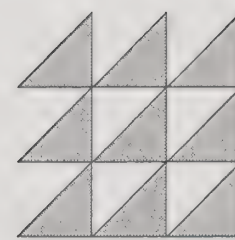
Policy 6- 58: Impacts-Sunnyvale Treatment

Consider the impacts on the Sunnyvale sanitary sewer system if significant industrial uses are proposed in the South Stevens Creek Boulevard area.

Policy 6-59: Vallco Parkway

Recognize that new high discharge users in the Vallco area and the Stevens Creek Boulevard and Blaney Avenue area will require private developer paid upgrading of tributary lines.





Section 7

Implementation

Introduction

This section outlines the steps to be taken to carry out General Plan policies and programs during a set period of time. It monitors the City's progress toward meeting the Plan's goals and measures the Plan's effectiveness through periodic reviews.

It is not easy to relate long-term policies and programs to concrete implementation steps, but other policies and programs that are very specific can be completed relatively quickly.

Implementation Techniques

The General Plan is carried out through four techniques: control timing of growth, development regulations, capital improvements and intergovernmental coordination.

Controlling the timing of growth includes consideration of the infrastructure capacity, geographic limitations and annexation. Cupertino makes sure that the City's infrastructure, in other words, its utilities and road system, can absorb the impacts of growth, regulating growth's timing and extent.

Cupertino cooperates with the Santa Clara County Local Agency Formation Commission (LAFCO) to define the growth limits of the City. LAFCO establishes an Urban Service Area boundary that identifies a supply of land to accommodate five years of growth, based on the growth rate of the previous five years and a Sphere of Influence line showing the 25-year growth limit. Both limits are illustrated on Figure 7-A.

Cupertino's Urban Service Area is developed with the exception of a few areas along the western fringe of the foothills, the Vallco Park planning area and the San Jose Diocese property near Interstate 280. Cupertino does not intend to expand into the 25-year limit Sphere of Influence growth line at this time.

Most of the county islands within the Urban Service Area have been annexed into Cupertino. Routine annexation will continue with properties that require new or expanded connections to Cupertino Water Service or properties that develop under county jurisdiction with a formal agreement to annex at a specified time. Annexations of large areas will be reviewed as they come up to find the degree of benefit to both the annexed area and to Cupertino.

■ Policy 7-1: Annexations of Small Islands

Actively pursue annexation of small islands, especially those in need of Cupertino Water Service and other municipal services to facilitate new development.

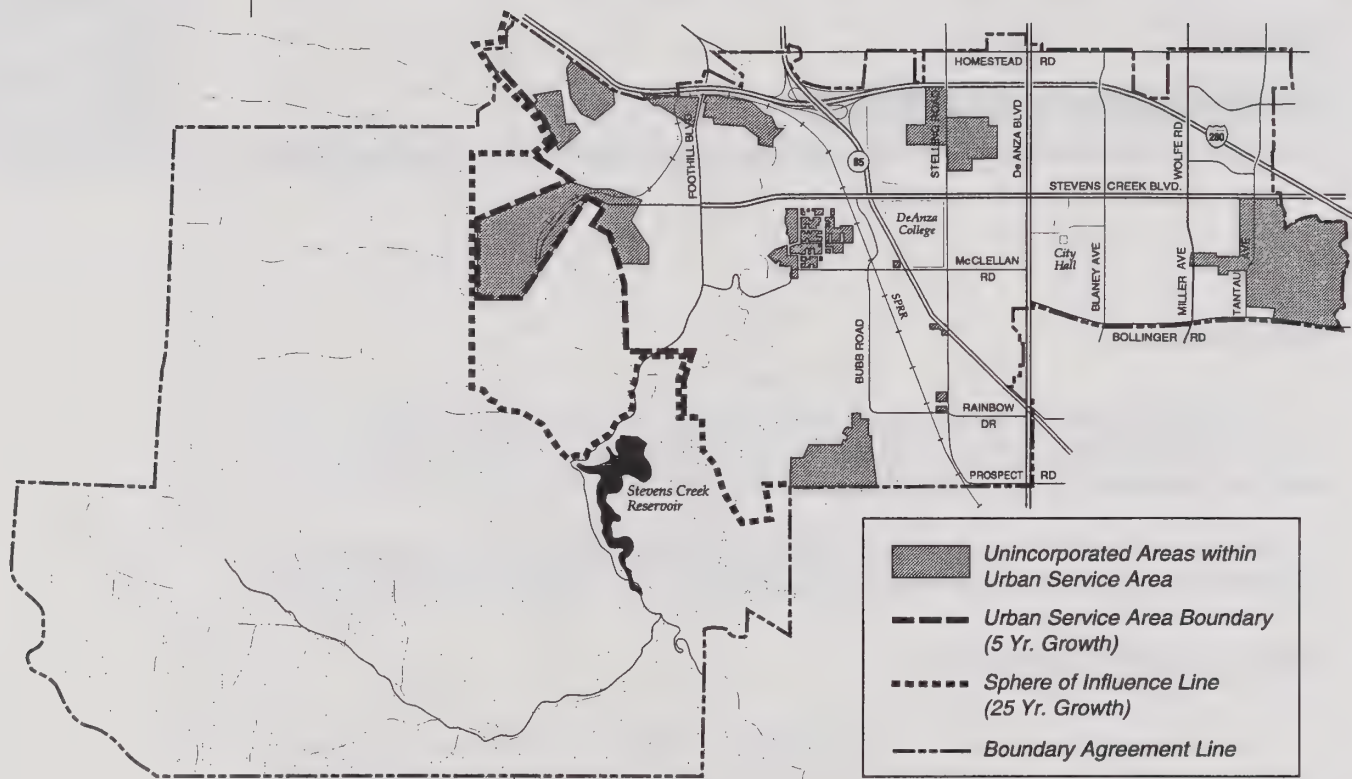


Figure 7-A. Urban Service and Sphere of Influence.

Some of Cupertino's development regulations are proactive, defining the actions of the City and other agencies to meet planning goals. A good example is in the Environmental Resources Element. Policies identify lands to be acquired by the City and other agencies for public open space and recreation. Others are reactive, regulating the use of land by private parties. They are in the Land Use/Community Character Element and on the land use diagram, which identifies approved land use types and intensity.

The need for significant capital improvements and their location are shown in the General Plan. The City is responsible for adopting a Capital Improvements Program to set the amount and source of money to build streets, acquire parks and build physical improvements to carry out the Plan.

The Plan guides agencies that directly serve the City, such as the fire district, sanitary district, school system and the regional open space management district. The Plan also contains policies that react to regional planning efforts, such as the T-2010 Transportation Plan.

This implementation chart links the plan's policies to a system that identifies the actions and timing needed to carry them out. The Plan will be reviewed yearly and the policies will be tested to be sure that they are still relevant and feasible, economically and politically, thus ensuring that the Plan remains current.

The General Plan must be both practical and visionary. The Plan must not be limited to a short-term viewpoint because it contains fundamental goals that may not be possible to achieve in a prescribed period. The steps to carry out such goals must be tested yearly to be sure that they are still valid and attainable. The community should appoint a Goals Committee to examine and restructure the Plan every five years to reflect changing community values.

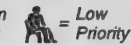
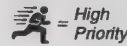
 **Policy 7-2: Plan Review Schedule**

Schedule the General Plan for review annually by the Planning Commission and every five years by an ad hoc citizen's review committee.

The implementation diagram shows follow-up actions to be taken within a specific time period based on a system of priorities. The Program Code refers to the Capital Improvements Program, Legislative Review Program, or to the Community Development/Public Works Departments' annual work programs, which contain more detailed description of each activity.

Land Use/Community Character Element

KEY



POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide-lines	Inter-Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
2-1	Provide adequate land area for a variety of uses, including recreation and open space. Encourage mixed use development.										
2-2	Coordinate private development to create Community Focal Point on or near Stevens Creek Blvd. through development of a specific plan.										
2-3	Revise Development Intensity Manual to address development allocation.										
2-4	Regulate land use intensity for Monta Vista area industrial and office uses. Require an allocation for commercial land uses.										
2-5	Protect residential areas from intrusive impacts of commercial and industrial uses in Monta Vista area.										
2-6	Implement shared driveways and interconnect parking lots on commercial sites in Monta Vista area.										
2-7	Require replacement of housing removed under eminent domain in Monta Vista.										
2-8	Eliminate architectural barriers to pedestrian mobility in Monta Vista area.										
2-9	Maintain a semi-rural appearance with residential street improvements in Monta Vista.										
2-10	Preserve existing neighborhood landscaping and emphasize on-site parking during redevelopment in Monta Vista.										
2-11	Allow mixed use development in Granada Ave., Stevens Creek Blvd. and Orange Ave. area and rely on public parking for commercial part of project on Pasadena and Imperial Avenues.										
2-12	Require traditional storefront appearances for commercial and office structures in Monta Vista.										
2-13	Provide full range of housing density and tenure type.										
2-14	Consider housing in non-residential developments.										
2-15	Ensure scale and density of new and remodel housing consistent with predominant single family pattern.										
2-16	Ensure compatibility of lot sizes with neighborhood lot pattern for zoning requests.										
2-17	Encourage variety in housing type and density in urban core.										

Land Use/Community Character Element (con't)

KEY

= High Priority

= Medium Priority

= Low Priority

= Unprogrammed

= Ongoing

= Timing Target

= Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide-lines	Inter-Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
2-18	Include private indoor/outdoor spaces for each unit in residential developments.										
2-19	Protect neighborhoods from adverse effects of more intense development.										
2-20	Use design techniques to reduce privacy intrusion from neighbors.										
2-21	Use design techniques to enhance security/neighborhood awareness.										
2-22	Monitor development rate/fiscal effects to avoid market saturation.										
2-23	City may enter into agreement with developer of hotel conference facilities to develop such facility.										
2-24	Intensify urban development in Vallco Park, N. De Anza Bl. and Town Center and Stevens Creek Blvd. area and amend height ordinance.										
2-25	Emphasize attractive on-site environments during the development review process.										
2-26	Encourage residential and public open space next to major streets.										
2-27	Review proposed development at Community entries to include Gateway treatment.										
2-28	Minimize number of curb cuts in each development.										
2-29	Plan street improvements as an integral part of the project to ensure safe movement of people and vehicles.										
2-30	Include defined spaces for pedestrians in parking lots.										
2-31	Provide 50 ft. setback for properties fronting De Anza Blvd.										
2-32	Use design techniques to off- set effects of major roadways.										
2-33	Define neighborhood entries through architecture, landscaping.										
2-34	Protect neighborhoods from through traffic spillover.										
2-35	Apply slope density formula to foothill residential areas.										

Land Use/Community Character Element (con't)

KEY



= High Priority



= Medium Priority



= Low Priority



= Unprogrammed

= Ongoing

= Timing Target

= Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guidelines	Inter-Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
2-36	Apply the 5-20 slope density designation to provide special hillside protection west of the existing urban/suburban development pattern.										
2-37	Properties previously identified in the 1976 General Plan as Very Low Density Residential: Semi-Rural 5 Acre may subdivide utilizing that formula.										
2-38	Rezone portion of Inspiration Heights area from R1-10 to RHS.										
2-39	Adopt an exception process in the foothill modified and 1/2 acre modified slope density designations to allow consideration of development on sub-standard lots.										
2-40	Apply hillside protection policies to diocese property.										
2-41	Do not expand the urban service area.										
2-42	Cluster major subdivisions in the hillsides, reserving 90% of the land in open space.										
2-43	Establish a private open space zoning district.										
2-44	Encourage clustering in minor subdivisions, reserving 90% of the land in open space.										
2-45	Establish stricter building standards for the hillside area.										
2-46	Amend RHS ordinance to disallow any structures on ridgelines if visible from valley floor vantage points.										
2-47	Locate hillside structures to minimize impacts on adjacent properties and open space.										
2-48	Amend RHS ordinance to avoid or limit development in geological hazard areas.										
2-49	Amend RHS ordinance to reduce visible mass of structures.										
2-50	Amend RHS ordinance to require low intensity and shielded lighting.										
2-51	Amend RHS ordinance to limit height and visual impacts.										
2-52	Amend the RHS ordinance to prohibit structures on slopes greater than 30%.										
2-53	Require rural improvement standards in hillside subdivisions.										

Land Use/Community Character Element (con't)

KEY



POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide-lines	Inter-Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
2-54	Include view of foothills/natural features in public facilities design.										
2-55	Investigate/mitigate environmental dangers of hillside development.										
2-56	Minimize disturbance of natural contours, plants, trees during hillside development										
2-57	Incorporate Santa Clara County Hillside Policies.										
2-58	County development should consider Cupertino's General Plan.										
2-59	Modify the long term growth boundary only in conjunction with a comprehensive General Plan review.										
2-60	Allow existing commercial/recreation uses in floodplain to remain or convert to agriculture.										
2-61	Designate non-recreational sites in floodplain as residential per criteria.										
2-62	Allow public, quasi-public uses in floodplain after review.										
2-63	Balance access to, protection from sun exposure for all homes.										
2-64	Work with school districts to continue to provide high level of school services.										
2-65	Design roads to meet school busing needs.										
2-66	Create pedestrian access between new subdivisions and schools.										
2-67	Continue to provide building permit data to school districts.										
2-68	Allow non-traditional uses at De Anza College.										
2-69	Require cooperation between the County and City in expanding library services and facilities if necessary.										
2-70	Integrate and coordinate the library system into General Plan goals.										
2-71	Encourage library to use new technology to improve service and encourage adjustments of library collections to meet needs.										

Land Use/Community Character Element (con't)

KEY

= High
Priority= Medium
Priority= Low
Priority

= Unprogrammed



= Ongoing



= Timing Target



= Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide- lines	Inter- Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
2-72	Actively seek methods to expand library facilities.										
2-73	Encourage private rehabilitation and retention of landmark buildings.										
2-74	Require investigation to determine if archaeological resources will be affected by a project.										
2-75	Take appropriate actions if native American burials are discovered during construction.										
2-76	Protect and maintain Heritage Trees.										
2-77	Consider requiring installation of public art in large project approvals.										
2-78	Base boundaries between land use classifications upon established land use activities, public streets and physical barriers.										
2-79	Recognize that actual dwelling unit density may be different from the land use map.										
2-80	Allow public and quasi-public activities within any land use designation and allow residential land uses in quasi-public areas.										
2-81	Designate all public school sites for public use within closed school sites used for quasi-public, institutional activities or for housing.										
2-82	Allow new driveup facilities if compatibility w/ surroundings shown.										
2-83	Discourage late-hour activities except in Vallco, Town Center or areas isolated from residential uses.										

Housing Element

KEY

||||| = Ongoing

⊙ = Timing Target

☑ = Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	RESPONSIBLE AGENCY	FUNDING SOURCE	TIMING				
				1993	1994	1995	1996	1997
1	Prepare specific plans for existing non-residential areas which will provide for an additional 1,500 housing units.	Planning Dept.	Staff time, property owners		by 1994 & 1995			
2.	Annually evaluate Appendix B. If units are approved or constructed which are different from projected potential, adjust Appendix C units. Monitor to assure that total units do not exceed 2,587.	Planning Dept.	Staff time					
3.	Promote neighborhood housing potential by providing property owners with information about the development process.	Planning Dept.	Staff time					
4	Encourage higher density affordable housing with density bonuses.	Planning Dept.	Staff time					
5	Consider specific locations for mandatory residential or mixed use.	Planning Dept.	Staff time	⊙				
6	Consider surplus school and urban church sites for higher density and mixed use residential.	Planning Dept.	Staff time					
7	Study additional specific areas for residential use.	Planning Dept.	Staff time			⊙		
8	Allow a density bonus if a Transfer of Development Credits program is adopted.	Planning Dept.	Staff time				⊙	
9	Discount parking standards for mixed use developments.	Planning Dept.	Staff time	⊙				
10	Set minimum landscaping, open space and setback standards for higher density and mixed use projects.	Planning Dept.	Staff time	⊙				
11	Set high design standards for higher density and mixed use projects.	Planning Dept.	Staff time					
12	Continue second unit ordinance.	Planning Dept.	Staff time					
13	Cooperate with county, state, federal and private agencies in developing affordable housing; use HUD funds to finance infrastructure; encourage use of mortgage revenue bonds and CDBG funds.							
14	Construct 160-210 very low and low income units.	Planning Dept.	Home Program				⊙	
15	Continue participation in Section 8 (Ex.) to assist 63 very low and low income housing.	Housing Authority of Santa Clara	CDBG, Project Sponsor, Staff time					
16	Develop rental and affordable ownership housing opportunities through the following combination of programs:	Planning Dept.	Staff time, City Funds					
	Continue priority processing of developments that have low/moderate income units;							
	Identify suitable sites and determine availability of surplus school sites;							
	Excuse all/part of development fees for projects which include low-mod. income units;							

Housing Element (con't)

KEY

= Ongoing

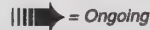
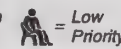
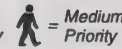
= Timing Target

= Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	RESPONSIBLE AGENCY	FUNDING SOURCE	TIMING				
				1993	1994	1995	1996	1997
	Develop additional methods for providing funding and units such as revenue bond financing;							
	Use City funds to assist non-profit organizations to develop rental units for low and very low income households.							
17	Determine necessity for Article 34 referendum.	Staff report to City Manager	City funds					
18	Participate in Mortgage Credit Certificate Program to provide ownership housing to 40 moderate income ownership units.	Planning Dept.	Staff time, MCC fund			by 1995		
19	Continue to support matching services for low income elderly households.	Planning Dept.	Staff time, CDBG					
20	Encourage the conversion of existing market rate units to affordable rental units.	Planning Dept.	BMR in lieu fees, Staff time					
21	Convene local churches, service organizations and school districts to encourage their participation in the development of Affordable Housing policy. Request long-term leases from churches, school districts and corporations for construction of affordable rental units.	Planning Dept.	Staff time			by 1995		
22	Give first priority for affordable units to people who live, work or have family in Cupertino.	Planning Dept.	Staff time					
23	Utilize the City's Affordable Rent Schedule in setting affordable rents and update it annually.	Planning Dept.	Staff time					
24	Adopt an ordinance to require housing mitigation procedures for new office/industrial and residential development.	Planning Dept.	Staff time					
25	Offer technical assistance to developers by investigating various financing strategies including:	Planning Dept.	Staff time					
	Local and county bond financing;							
	Bank financing of mixed use projects;							
	Pension funds as sources for construction financing.							
26	Create a Housing Endowment Program for affordable housing	Planning Dept.	Staff time, CDBG					
27	Require developers of affordable housing to provide a reserve for maintenance.	Planning Dept.	Staff time, Project sponsor					
28	Develop an educational program for the public about affordable housing.	Planning Dept.	Staff time					
29	Ensure that developers meet with neighborhood groups prior to and during development of affordable housing projects.	Planning Dept.	Staff time					
30	Form a housing advocacy group to educate residents about affordable housing needs and benefits.	Planning Dept.	Staff time					

Transportation Element

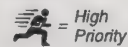
KEY



POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide-lines	Inter-Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
4-1	Participate in developing regional transportation solutions.										
Strategy	Support expansion of County Transit fleet and support prioritizing express services along expressways and arterial streets.										
Strategy	Support expansion of rapid transit.										
4-2	Maintain reasonable AM and PM peak hour level of service through land use limitations.										
Strategy	Limit Stevens Creek Blvd. to 6 lanes and De Anza Blvd. to 8 lanes.										
Strategy	Impose FAR on commercial, office and industrial uses which may be exceeded by a development allocation.										
Strategy	Carry out citywide transportation improvement plan to accommodate LOS D on major street system except LOS E at Stevens Creek and De Anza Blvds. and De Anza Blvd. and Bollinger Road for the Heart of the City.										
Strategy	Consider an underpass at De Anza and Stevens Creek if needed.										
Strategy	Conduct a traffic analysis after completion of Highway 85 to determine opportunities to improve LOS.										
4-3	Plan construction of critical street improvements to coincide with major development.										
Strategy	Require traffic study with plans for major developments.										
4-4	Interconnect private driveways in lieu of direct access to major streets.										
4-5	Protect community from harmful impacts of transportation system.										
4-6	Develop traffic management plans for neighborhoods affected by excess levels of through traffic.										
4-7	Study/implement techniques to discourage abusive driving.										
4-8	Discourage private auto use in favor of other travel modes.										
Strategy	Encourage bicycling, motorbike use and car/van pooling.										

Transportation Element (con't)

KEY



= High Priority



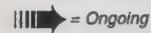
= Medium Priority



= Low Priority



= Unprogrammed



= Ongoing



= Timing Target



= Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide-lines	Inter-Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
Strategy	Provide street space for bike lanes, ped. paths, bus turnouts.										
Strategy	Require on site bicycle facilities including parking facilities, showers, and clothing storage lockers at industrial, comm. developments.										
Strategy	Coordinate bicycle route planning with surrounding cities and County.										
Strategy	Incorporate bicycle lanes and pedestrian crossings in freeway overpass construction.										
Strategy	Use City media to provide information on non-motoring travel.										
Strategy	Continue to work with CUBPAC and the public to improve bicycle and pedestrian safety.										
4-9	Continue to plan for and provide a comprehensive trail and pathway system.										

Environmental Resources Element

KEY

= High Priority
 = Medium Priority
 = Low Priority
 = Unprogrammed

= Ongoing

= Timing Target

= Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide- lines	Inter- Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
5-1	Designate Williamson Act properties for their anticipated developed use.										
5-2	Recognize and support agricultural land uses in development review.										
5-3	Maintain farming/grazing in hillside areas - monitor erosion.										
5-4	Assess air quality impacts of major developments.										
5-5	Use water or oil to control dust during construction activity.										
5-6	Initiate a public education program about the Clean Air Act and ways to control emissions.										
5-7	Pursue cooperation among region wide organizations to improve air quality.										
5-8	Ensure that local land use decisions support the goal of clean air.										
5-9	Continue to allow home occupations in residential areas.										
5-10	Increase tree planting on public and private property.										
5-11	Consider purchase of more fuel efficient city vehicles.										
5-12	Warn joggers, cyclists against inhaling pollutants-expand par jogging trails per demand.										
5-13	Landscape city projects which are near native vegetation with appropriate native plants.										
5-14	Cluster new development away from sensitive natural areas.										
5-15	Use native plants near natural vegetation and for erosion control.										
5-16	Minimize lawn area and maximize native trees by amending RHS ordinance.										
5-17	Limit fencing of hillside lots to area near building, not entire site.										
5-18	Limit recreation activity as compatible with preserving natural areas.										
5-19	Provide public access to wildlife and fishing sites.										

Environmental Resources Element (con't)

KEY

= High
Priority= Medium
Priority= Low
Priority

= Unprogrammed



= Ongoing



= Timing Target



= Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide- lines	Inter- Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
5-20	Provide open space linkages within and between properties for recreational and wildlife activities.										
5-21	Limit existing mineral resource areas in sphere of influence to present operations and work with Santa Clara County to ensure compatibility with City's General Plan.										
5-22	Control pollution, scenic restoration in mineral extraction activities.										
5-23	Encourage compatibility of land uses around mineral resource areas.										
5-24	Consider passive recreation uses at abandoned quarries.										
5-25	Support SCVWD development of ground water recharge sites in city; provide public rec. uses when possible.										
5-26	Encourage research of other water resources such as water reclamation.										
5-27	Encourage inclusion of conservation measures in industrial projects with Sanitary District cooperation.										
5-28	Retain natural state of water courses and associated vegetation to protect habitat and recreation potential and enhance ground water recharge.										
5-29	Pursue regional solutions to water supply problems.										
5-30	Recognize that additional growth in Reglin Mutual Water Co. district may require annexation to adjoining water district, resulting in facility and service demands to that district.										
5-31	Keep city-wide conservation efforts similar to regional efforts.										
5-32	Provide public information on water conservation techniques.										
5-33	Prohibit excessive water uses during drought conditions.										
5-34	Institute water conservation programs at City buildings.										
5-35	Continue to participate in the Non-point Source Pollution Control program.										
5-36	Encourage reduction of impervious surface areas and retaining storm runoff.										

Environmental Resources Element (con't)

KEY

= High Priority

= Medium Priority

= Low Priority

= Unprogrammed

= Ongoing

= Timing Target

= Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide-lines	Inter-Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
5-37	Do not permit development if not served by Sanitary sewers except for Regnart Canyon.										
5-38	Continue to act as a liaison between PG&E and community in providing energy efficiency information.										
5-39	Continue County policies to pursue connection of upper/lower Stevens Creek Park.										
5-40	Keep Stevens Creek Reservoir and watershed in public ownership.										
5-41	Actively pursue interagency acquisition of green belt space on lower foothills.										
5-42	Provide open space/trail linkages in Figure 5-E,F,G.										
5-43	Encourage continued existence of private open space facilities.										
5-44	Seek cooperation from private land owners for public use of private open space.										
5-45	Provide park land of a minimum of 3 acres/1000 population.										
5-46	Provide park space @ 1/2 mi. safe walking distance from all households.										
5-47	Plan park areas at 3.5 acre minimum area for flexible use except if certain criteria are met.										
5-48	Design parks for flexibility and low maintenance.										
5-49	Ensure parks are bounded by public streets; create perimeter roads.										
5-50	Provide a public neighborhood park for new residential development based on park ratio requirements in Neighborhood N and adjust boundaries of Neighborhoods N and E-1.										
5-51	Determine park needs in Neighborhoods J-1, J-2 and K after completion of Sedgwick School master plan.										
5-52	Pursue park acquisition program per Table 5-B funding/timing priorities.										
5-53	Provide park and recreational space and facilities for new residential development in non-res. areas.										
5-54	Pursue partnerships to fund a recreational gymnasium and swimming pool should they be developed.										

Public Health and Safety Element

KEY

= High Priority

= Medium Priority

= Low Priority

= Unprogrammed

= Ongoing

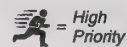
= Timing Target

= Completed

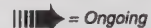
POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide-lines	Inter-Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
6-1	Adopt formal geologic process for new development.										
6-2	Continue public education program to reduce earthquake hazard.										
6-3	Encourage County implementation of fire hazard policies in County GP.										
6-4	Encourage outside agencies to pursue fuel management practices.										
6-5	Encourage MPOSD to allow use of green fire breaks.										
6-6	Continue to require fire sprinklers in hillside and flag lot residences.										
6-7	Require frequent grade breaks in hillside development access routes.										
6-8	Require upgrade of existing access routes in new hillside development.										
6-9	Involve Central Fire District in early design stage of projects.										
6-10	Encourage cooperation between water utilities and Central Fire District.										
6-11	Encourage utilities to consider fire fighting needs when upgrading water systems.										
6-12	Involve Central Fire District in design of public roadways.										
6-13	Promote fire prevention through public education.										
6-14	Ensure adequate fire protection for multi-story buildings.										
6-15	Consider requiring fire sprinklers in all residences.										
6-16	Consider new guidelines for fire protection in commercial and industrial uses.										
6-17	Discourage entry gates in private residential development.										
6-18	Allow public access to private streets in emergency for dead end streets.										
6-19	Require smoke detectors in new res. structures.										

Public Health and Safety Element (con't)

KEY

= High
Priority= Medium
Priority= Low
Priority

= Unprogrammed



= Ongoing



= Timing Target



= Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide- lines	Inter- Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
6-20	Discourage new construction in urban flood hazard areas.										
6-21	Continue prohibiting habitable developments in natural flood plains.										
6-22	Restrict hillside grading from April to October; replant affected slopes.										
6-23	Evaluate structural integrity of city water system components.										
6-24	Use GP data to evaluate land use compatibility with noise environment.										
6-25	Design of roads along West Valley Transportation corridor should minimize noise intrusion.										
6-26	Support stricter noise reduction legislation at state level.										
6-27	Prioritize resident convenience and safety over through commute traffic.										
6-28	Evaluate solutions to halt abuse of local streets, including assessment district funded improvements.										
6-29	Work toward voluntary truck traffic reduction from quarries.										
6-30	Work to carry out noise mitigation measures to diminish Kaiser truck traffic near Foothill and Stevens Creek Blvds.										
6-31	Plan new commercial/industrial delivery areas away from residential uses.										
6-32	Limit delivery hours per Municipal Code.										
6-33	Require noise analysis/mitigation for industrial uses near homes.										
6-34	Restrict hours of construction work near homes.										
6-35	Develop comprehensive noise ordinance to set maximum disturbance levels from many sources.										
6-36	Exercise discretion in requiring noise walls.										
6-37	Support Neighborhood Awareness Program to prevent crime.										
6-38	Encircle public parks with perimeter roads when possible.										

Public Health and Safety Element (con't)

KEY

= High
Priority= Medium
Priority= Low
Priority

= Unprogrammed

= Ongoing

= Timing Target

= Completed

POLICY NUMBER	DESCRIPTION (Program Summary)	FOLLOW-UP ACTION					TIMING				
		CIP	Code Ord.	Guide- lines	Inter- Agency Coord.	Develop. Review	1993	1994	1995	1996	1997
6-39	Consider crime reduction techniques in project planning and design.										
6-40	Recognize fiscal impacts to security forces when approving land use mixes.										
6-41	Continue to involve County Sheriff in review of development applications.										
6-42	Continue to train employees annually in disaster preparedness.										
6-43	Continue to interact with ham operators to prepare for emergency communication needs.										
6-44-47	Encourage disaster preparedness community-wide.										
6-48	Continue to require proper storage and disposal of hazardous materials.										
6-49	Assess the risk of exposure to hazardous materials when new residential development or childcare facilities are proposed in existing industrial and manufacturing areas.										
6-50	Endorse County Hazardous Waste Mgmt. Plan.										
6-51	Encourage contributors to the hazardous waste stream to use non-hazardous alternative products and processes and to recycle materials.										
6-52	Continue to work with the County and other groups for proper management and disposal of household hazardous wastes.										
6-53	Continue to expand recycling program to meet state goals.										
6-54	Include all zoning districts in curbside recycling program.										
6-55	Modify on-site waste facility requirements in multi-family residential, commercial and industrial land uses to accommodate recycling.										
6-56	Continue public education regarding solid waste reduction and recycling.										
6-57	Continue recycling at City facilities.										
6-58	Consider impacts on sanitary system if significant industrial uses are proposed in Stevens Creek area.										
6-59	Recognize that high discharge users in Valico area and Stevens Creek Blvd. /Blaney area will require developer paid upgrading of tributary lines.										

The City of Cupertino

GENERAL PLAN

APPENDIX E

SLOPE DENSITY

JUNE 1993

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Section 1: Statement of Purpose

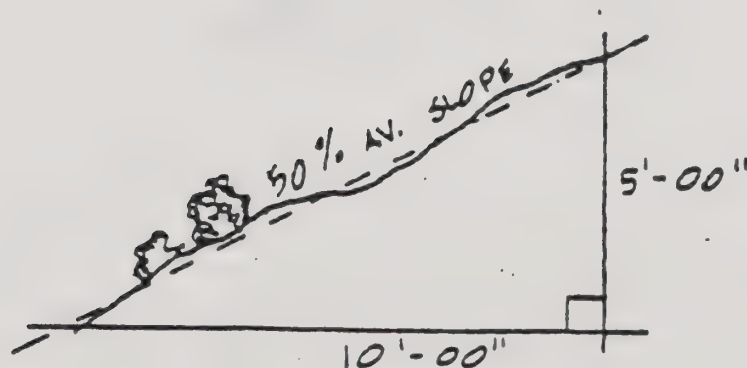
This document has been prepared with the intent of acquainting the general reader with the slope-density approach to determining the intensity of residential development. The slope-density approach was incorporated in the hillside plan in order to develop an equitable means of assigning dwelling unit credit to property owners. In addition to offering the advantage of equal treatment for property owners, the slope-density formula can also be designed to reflect property owners, the slope-density formula can also be designed to reflect judgments regarding aesthetics and other factors into a mathematical model which determines the number of units per acre on a given piece of property based upon the average steepness of the land. Generally speaking, the steeper the average slope of the property, the fewer the number of units which will be permitted.

Although the slope-density formula can be used as an effective means to control development intensity, the formula itself cannot determine the ideal development pattern. The formula determines only the total number of dwelling units, allowable on the property, based upon the average slope; it does not determine the optimum location of those units on the property. Exogenous factors not regulated by the slope-density formula such as grading, tree removal, or other environmental factors would be regulated by other means. The slope-density formulas do not represent by themselves a complete safeguard against development detrimental to the environment; but, together with other conservation measures, they are considered a valuable planning device.

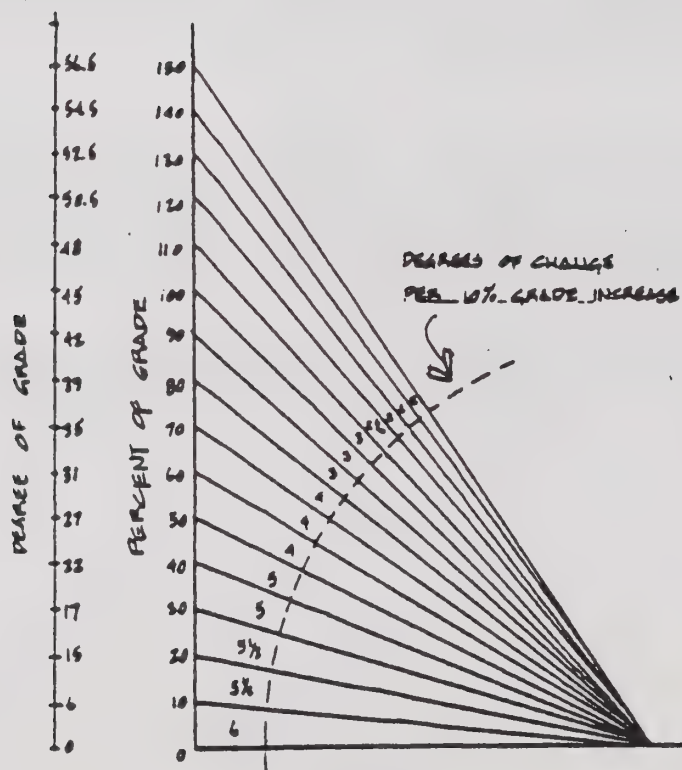
Section 2: Discussion of "Slope"

Steepness of terrain can be defined in several ways: As the relationship between the sides of the triangle representing a vertical section of a hill, or as the angle between the terrain and the horizontal plain, to name two. Unfortunately, the definitions of the terms "slope," "grade," "gradient," "batter," and of the expression "the slope is 1 to..." are not well known or uniformly applied causing much confusion. For purposes of this section, the concept of steepness of terrain will be defined and discussed as a "percentage of slope".

"Percent of slope" is defined as a measurement of steepness of slope which is the ratio between vertical and horizontal distances expressed in percent. As illustrated below, a 50% slope is one which rises vertically 5 ft. in a 10 ft. horizontal distance.



One of the most common confusions of terminology relative to terrain steepness is the synonymous usage of "percent of grade" and "degree of grade." However, as the illustration below indicates, as percent of grade increases, land becomes steeper at a decreasing rate. The present slope-density formulas specified by the City of Cupertino require more land for development as the rate of percent of grade increases. Thus, the relationship between percent of grade and degree of grade is inverse rather than corresponding.



To more accurately assess the impact of steepness of terrain on the feasibility of residential development, it might be helpful to examine some of phenomena commonly associated with increasing percentages of slope steepness.¹

1. William Spangle & Associates Slope Density Study - Phase I. (Published October 1) William Spangle and Associates was retained by County to assist the effort of Planning Policy Committee relative to Santa Cruz Mountain Study and Montebello Ridge Study.

<u>Percent of Slope</u>	<u>Description of Slope Problems</u>
0-5%	Relative level land. Little or no development problems due to steepness of slope.
5-15%	Minimum slope problems increasing to significant slope problems at 15%. 15% is the maximum grade often considered desirable on subdivision streets. Above 15%, roads must run diagonally to, rather than at right angles to contours increasing the amount of cut and fill. For example, the lower segment of San Juan Road in the Cupertino foothills averages 20% in grade.
15-30%	Slope becomes a very significant factor in development at this steepness. Development of level building sites requires extensive cut and fill in this slope category and the design of individual houses to fit terrain becomes important.
30-50%	Slope is extremely critical in this range. Allowable steepness of cut and fill slopes approach or coincide with natural slopes resulting in very large cuts and fills under conventional development. In some cases, fill will not hold on these slopes unless special retaining devices are used. Because of the grading problems associated with this category, individual homes should be placed on natural building sites where they occur, or buildings should be designed to fit the particular site.
50%+	Almost any development can result in extreme disturbances in this slope category. Except in the most stable native material special retaining devices may be needed.

Section III: Description of Slope-Density

1) The "Foothill Modified" slope density

The "Foothill Modified" slope density is designed for application to those properties in the "Fringe" of the Hillside study area with average slopes less than 10%. The formula assumes availability of municipal services. Beginning at credit of 3.5 dwelling units/gr. acre, the formula follows a cosine curve of decreasing density credit with increase of slope, achieving a constant above 43% average slope.

2) The "Foothill Modified 1/2 Acre" slope density

This slope density is applied in the Urban Service Area to those properties where a full range of municipal utility services are available. The formula begins at density of 1/2 acre per dwelling unit which holds constant at 22% average slope. From 22% to 43% average slope, the formula follows a cosine curve of decreasing density credit with increasing slope. The density credit above 43% average slope remains constant at 0.20 dwelling units/gr. acre.

3) The "5-20" slope density

This slope density is applied to those properties which lie west of the urban/suburban fringe.

See the following pages for the three slope density curves.

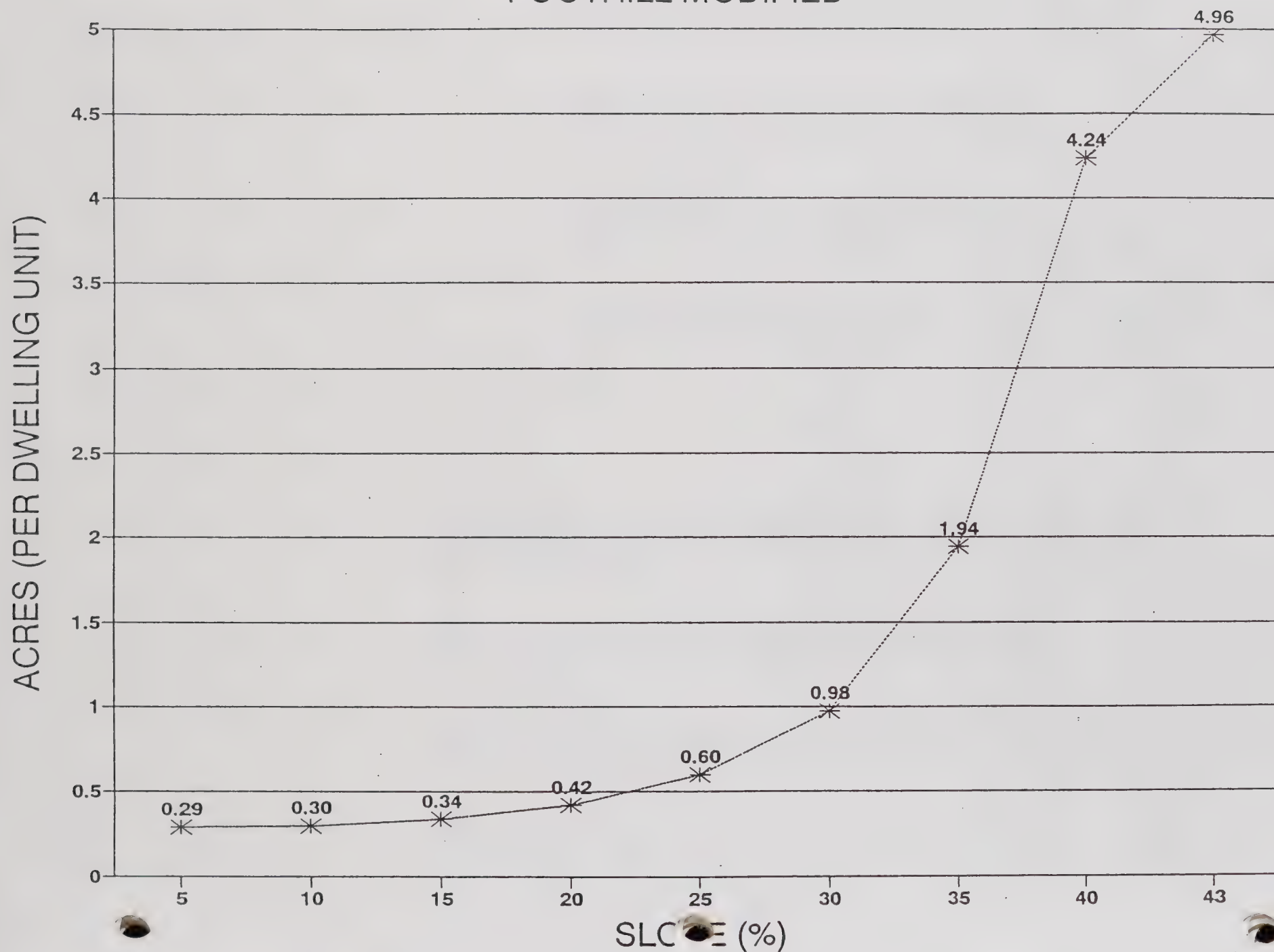
Slope Density Formula: "Foothill Modified"

$$d = 1.85 + 1.65 \cos \{(s-5) \times 4.8\}$$

$$0 < s < 44$$

SLOPE %	Density D.U. per gross ac.	Gr. acres per D.U.	Average lot area gr.sq.ft.	SLOPE %	Density D.U. per gross ac.	Gr. acres per D.U.	Average lot area gr.sq.ft.
s	d	1/d	43560/d	s	d	1/d	43560/d
5	3.500	0.286	12,446	27	1.406	0.711	30,975
6	3.494	0.286	12,466	28	1.275	0.784	34,169
7	3.477	0.288	12,528	29	1.147	0.871	37,962
8	3.448	0.290	12,633	30	1.025	0.976	42,498
9	3.408	0.293	12,781	31	0.908	1.101	47,957
10	3.357	0.298	12,975	32	0.798	1.253	54,569
11	3.296	0.303	13,216	33	0.696	1.438	62,626
12	3.224	0.310	13,510	34	0.601	1.664	72,484
13	3.143	0.318	13,859	35	0.515	1.941	84,562
14	3.053	0.328	14,269	36	0.439	2.280	99,305
15	2.954	0.339	14,746	37	0.372	2.688	117,073
16	2.848	0.351	15,297	38	0.316	3.166	137,905
17	2.734	0.366	15,932	39	0.270	3.698	161,081
18	2.614	0.382	16,661	40	0.236	4.236	184,532
19	2.489	0.402	17,498	41	0.213	4.695	204,497
20	2.360	0.424	18,459	42	0.201	4.964	216,235
21	2.227	0.449	19,562	43	0.201	4.964	216,235
22	2.091	0.478	20,832				
23	1.954	0.512	22,297				
24	1.815	0.551	23,994				
25	1.678	0.596	25,967				
26	1.541	0.649	28,271				

FOOTHILL MODIFIED



5-20 ACRE SLOPE DENSITY

SLOPE %	Density D.U. per gross ac.	Gr. acres per D.U.	Average lot area gr.sq.ft.	SLOPE %	Density D.U. per gross ac.	Gr. acres per D.U.	Average lot area gr.sq.ft.
s	d	1/d	43560/d	s	d	1/d	43560/d
10	0.20	5.00	217,800	31	0.10	9.92	431,964
11	0.20	5.07	220,786	32	0.10	10.32	449,722
12	0.19	5.15	224,518	33	0.09	10.75	468,121
13	0.19	5.26	228,992	34	0.09	11.18	487,154
14	0.19	5.38	234,204	35	0.09	11.63	506,814
15	0.18	5.51	240,153	36	0.08	12.10	527,093
16	0.18	5.67	246,835	37	0.08	12.58	547,982
17	0.17	5.84	254,245	38	0.08	13.07	569,475
18	0.17	6.02	262,381	39	0.07	13.58	591,563
19	0.16	6.23	271,238	40	0.07	14.10	614,238
20	0.16	6.45	280,811	41	0.07	14.63	637,491
21	0.15	6.68	291,096	42	0.07	15.18	661,313
22	0.14	6.94	302,089	43	0.06	15.74	685,696
23	0.14	7.20	313,784	44	0.06	16.31	710,630
24	0.13	7.49	326,176	45	0.06	16.90	736,106
25	0.13	7.79	339,260	46	0.06	17.50	762,115
26	0.12	8.10	353,030	47	0.06	18.10	788,648
27	0.12	8.44	367,481	48	0.05	18.73	815,694
28	0.11	8.78	382,606	49	0.05	19.36	843,244
29	0.11	9.15	398,399	50	0.05	20.00	871,288
30	0.11	9.52	414,854	50>			

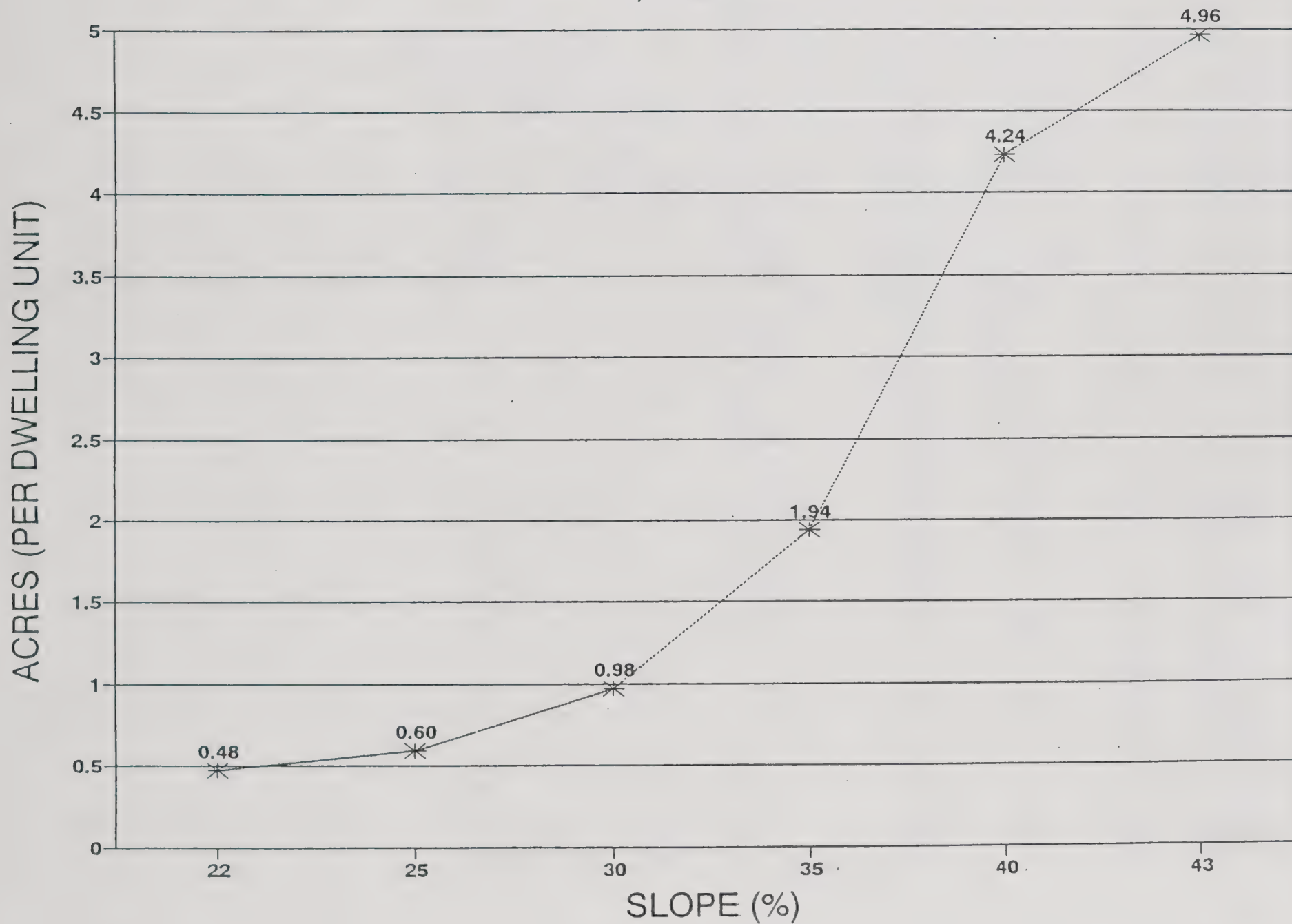
Slope Density Formula: "Foothill Modified 1/2 Acre"

$$d = 1.85 + 1.65 \cos \{(s-5) \times 4.8\}$$

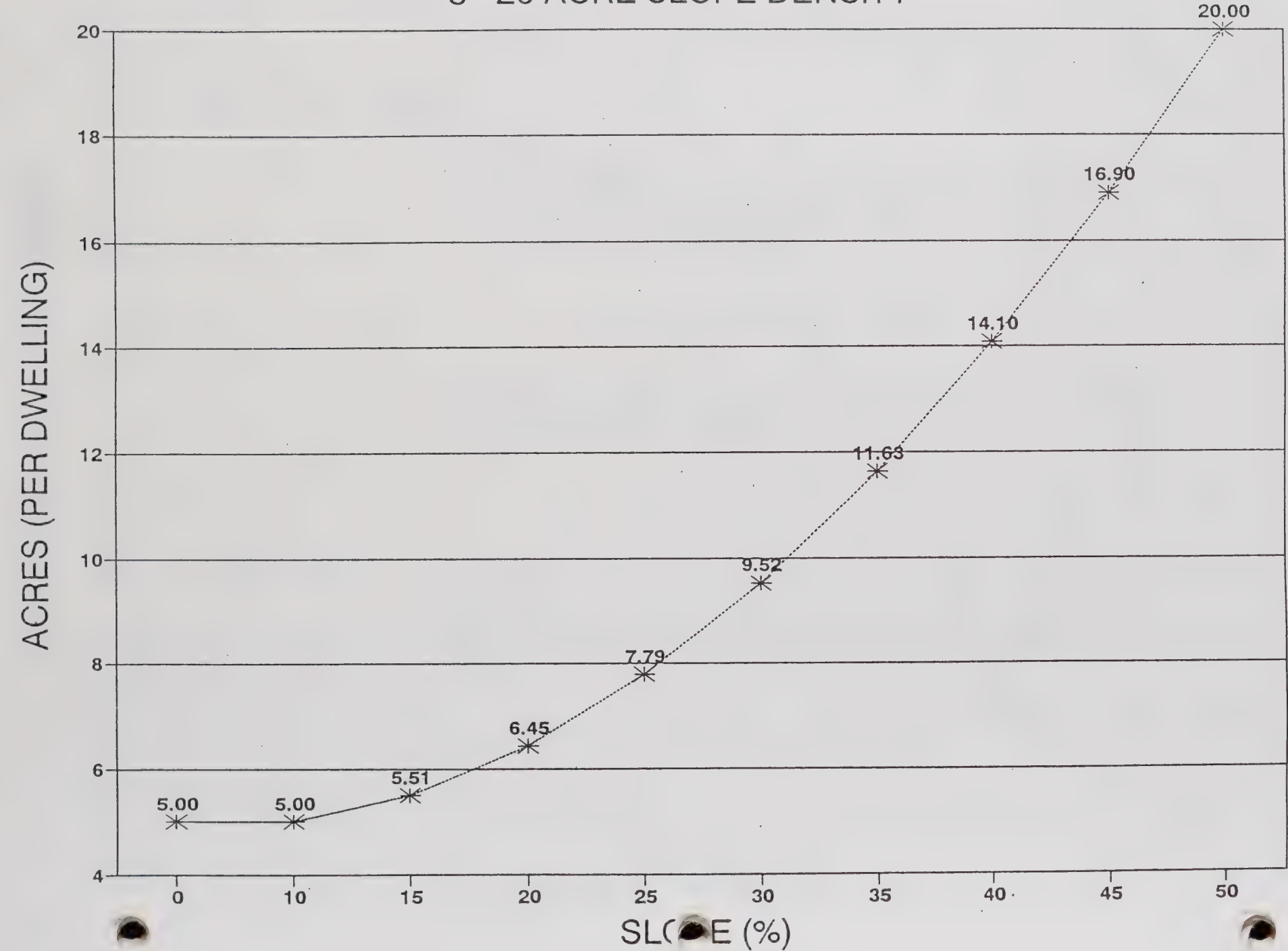
$$5 < s < 44$$

SLOPE %	Density D.U. per gross ac.	Gr. acres per D.U.	Average lot area gr.sq.ft.
s	d	1/d	43560/d
22	2.091	0.478	20,832
23	1.954	0.512	22,297
24	1.815	0.551	23,994
25	1.678	0.596	25,967
26	1.541	0.649	28,271
27	1.406	0.711	30,975
28	1.275	0.784	34,169
29	1.147	0.871	37,962
30	1.025	0.976	42,498
31	0.908	1.101	47,957
32	0.798	1.253	54,569
33	0.696	1.438	62,626
34	0.601	1.664	72,484
35	0.515	1.941	84,562
36	0.439	2.280	99,305
37	0.372	2.688	117,073
38	0.316	3.166	137,905
39	0.270	3.698	161,081
40	0.236	4.236	184,532
41	0.213	4.695	204,497
42	0.201	4.964	216,235
43	0.201	4.964	216,235

FOOTHILL MODIFIED
1/2 ACRE



5 - 20 ACRE SLOPE DENSITY



Section IV: How to Conduct a Slope-Density Analysis (Map Wheel Method)

The computation of density using a slope-density formula is relatively simple once the basic concepts are understood. This section of Appendix A describes the basic concepts in order to enable individuals to determine density. The City Planning staff will provide technical assistance; however, it is the responsibility of the owner or potential developer to provide accurate map materials used in the slope-density investigation for a specific property.

The City has map material which is accurate enough to provide an approximate slope-density evaluation. Accurate information needed to evaluate a specific development proposal must be provided by the owner or developer.

Step One: Selection of Map Material

To begin any slope-density investigation, it is important to select the proper mapping material. Maps on which measurements are made must be no smaller in scale than $1" = 200'$. ($1" = 2400'$) All maps must be of the topographical type with contour intervals not less than 10 ft.

If the map wheel method is used for measuring contours, or if a polar planimeter is used for measurement of an area, maps on which such measurements are made must not be smaller in scale than $1" = 50'$ ($1" = 600'$); these maps may be enlarged from maps in a scale not less than $1" = 200'$. Enlargement of maps in smaller scale than $1" = 200'$, or interpolation of contours is not permitted.

Step Two: Layout of Standard Grid System

The property for which area and slope are to be measured is divided into a network of "cells" constructed from a grid system spaced at 200 ft. intervals. In order to ensure a common reference point and to prevent the practice of "gerrymandering" the grid system to distort the average slope of the property, the grid system must be oriented parallel to the grid system utilized by Santa Clara County's $1" = 500'$ scale map series.

Figure 1 illustrates a hypothetical property divided into cells by a 200 ft. grid network. It is perhaps easiest to construct the $200' \times 200'$ cells by beginning at an intersection point of perpendicular County grid lines ("Q" in Figure 1) and then measuring 200 ft. intervals along the two County grid lines until the entire property is covered with a network. After the grid lines have been laid out, it is helpful to number each 200 ft. square cell or part thereof. Whenever the grid lines divide the property into parts less than approximately 20,000 sq. ft., such areas shall be combined with each other or with other areas so that a number of parts are formed with the areas approximately between 20,000 and 60,000 sq. ft. Cells formed by combining several subareas should be given a single number and should be shown on the map with "hooks" to indicate grouping (see area 2 on Figure 1). At this point, the investigator should obtain a copy of the "Slope-Density Grid Method Worksheet," Figure 2 of this document. Under Column A (land unit), each line should be numbered down the page to correspond with the total number of cells on the property. (Figure 2)

Step Three: Measurement of Area and Contour Length

With the map material properly prepared in Steps One and Two, we can now begin the actual mechanics of the slope-density analysis. The first task is to ascertain the acreage of the subject property. This acreage figure is obtained by measuring the area of each numbered cell divided by the 200 ft. grid, and then summing the results of the individual measurements. Since the standard grid cell measures 200' x 200', it is only necessary to measure the area of any non-standard size cell. Referring once again to the worksheet, as each cell is calculated for area, the results should be entered in Column B (and Column C optional). see Figure 2.

Irregularly shaped cells may be measured for area quickly and accurately by means of a polar planimeter. This device is analog instrument which traces the perimeter of an area to be measured and gives the size in actual square inches. This measurement is then multiplied by the square of the scale of the map being used. For example, 1" - 200', the square of 200 ft. means 1" equals 40,000 sq. ft. The total square footage of each cell can then be converted to acreage by dividing by 43,560 sq. ft. More detailed instruction in the use of the planimeter may be obtained from the City Planning Department.

Areas of irregular shape can also be measured by dividing each part into triangles, for which the areas are determined by the formula $A = \frac{\text{base} \times \text{height}}{2}$, if a planimeter is not available.

Having now determined the area of each cell, one must now proceed to measure the contour lengths of the property. Contour length and interval are both vital factors in calculating the average slope of the land. Each contour of a specified interval is measured separately within each standard cell or other numbered zone for which the area has been calculated. The map wheel (Figure 3) is set at "zero" and is then run along the entire length of a contour within the boundary of the cell, lifted and placed on the next contour (without resetting the wheel to zero) and so forth until the total length of contours of the specified interval within the individual cell is determined. The map wheel will display a figure in linear inches traveled. This figure shown on the dial should then be multiplied by the map scale. (Example: map wheel reads - 14 1/2 inches, map scale is 1" - 50'. Contour length - 14.5 x 50 - 750'). The results should then be entered on the proper in of Column D (Figure 2).

Step Four: Calculation of Average Slope

Knowing the total length of contours, the contour interval, and the area of each numbered cell, one may now calculate the average slope of the land. Either of the two formulas below may be used to calculate average slope:

$$S = \frac{0.0023 I L}{A}$$

S = average slope of ground in percent

I = contour interval in feet

L - combined length in feet of all contours on parcel

A - area of parcel in acres

The value 0.0023 is 1 sq. ft. expressed as a percent of an acre:

$$\frac{1 \text{ sq. ft.}}{43,560} = 0.0023 \text{ ac.}$$

$$S = \frac{I \times L \times 100}{A}$$

S = average slope of ground in percent

I = contour intervaling feet

L = combined length in feet of all contours on parcel

A = area of parcel and square feet

The results should be entered on the appropriate line of Column E of the worksheet.

Step Five: Determination of Dwelling Unit Credit

With the average slope of the cell now determined, one can calculate the dwelling unit credit per cell by obtaining a factor from the appropriate slope-density table (Section 3 of this document) then multiplying that factor by the area of the cell in acres. Refer to Figure 4 to ascertain which formula applies to the property under investigation. The formula factor is found by first reading the table column "s" (slope) until reaching the figure corresponding to the average slope of the cell being studied; next, one reads horizontally to the "d" column (density D.U. / gr. ac.). This factor should be entered in Column F of the worksheet. The factor in Column F is now multiplied by the acreage in Column B and the result entered under the appropriate slope-density formula title (Column G, H, I or J).

Step Six: Summation of Results

When all cells in the parcel have been analyzed in the manner previously described, total for various components of the data may be derived and entered into the two bottom rows of the worksheet. Columns B, C (if used), and D should be summed at the bottom of the sheet. A mathematical average may be calculated for Column E. Columns G through J should be summed at the bottom of the page. The totals shown at the bottom of columns G through J represent the total number of dwelling units permitted on that property, based on the average slope. These totals should be carried out to a minimum of two decimal places.

"Rounding" of Dwelling Unit Credit Results

The City Council, during its meeting of March 7, 1977, adopted the following policy regarding the rounding up of a numerical dwelling unit yield resulting from application of a slope-density formula:

"The rounding up of the numerical yield resulting from application of a slope-density formula may be permitted in cases where the incremental increase in density from the actual yield to the rounded yield will not result in a 10% increase of the actual yield. In no case, shall an actual yield be rounded up to the next whole number unless the fractional number is .5 or greater."



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Legend:



Common

Oversized Map or Foldout not scanned.

Item may be viewed at the
Institute of Governmental Studies Library, UC Berkeley.

